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Ontario. Legislative Assembly

SESSIONAL PAPERS

VOL. LXIV.—PART VI.

FOURTH SESSION

OF THE

EIGHTEENTH LEGISLATURE

OF THE

PROVINCE OF ONTARIO

SESSION 1932

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1933

CONTENTS

FOR PART VI.

REPORTS

PROVINCIAL AUDITOR

WORKMEN'S COMPENSATION BOARD

ONTARIO VETERINARY COLLEGE

JUDGE MIDDLETON'S REPORT
(WORKMEN'S COMPENSATION ACT)

NORTHERN DEVELOPMENT ACT

ARCHIVES

ROYAL COMMISSION ON RADIUM

HIGHWAYS

MINIMUM WAGE BOARD

PROVINCIAL AUDITOR'S REPORT

1930-31

Prepared pursuant to the provisions of an Order-in-Council dated the 28th day of October, 1909

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO
SESSIONAL PAPER No. 27

ONTARIO

TORONTO
Printed and Published by Herbert H. Ball, Printer to the King's Most Excellent Majesty
1932

To The Right Honourable Sir William Mulock, K.C.M.G., P.C., C.J.O.,
Administrator of the Province of Ontario.

May It Please Your Honour:

The undersigned has the honour to present to Your Honour the Report of the Provincial Auditor pursuant to the provisions of R.S.O. 1927, chap. 25, sec. 13, subsec. 2, of the Audit Act.

Respectfully submitted,

E. A. Dunlop,
Treasurer of Ontario.

Treasury Department, Ontario,
Toronto, February 24th, 1932.

PROVINCIAL AUDITOR'S OFFICE,
Toronto, February 24th, 1932.

HON. E. A. DUNLOP,
Treasurer of Ontario.

SIR: I have the honour to submit for the information of the Legislative Assembly, pursuant to the provisions of an Order-in-Council dated 28th October, 1909, as provided by R.S.O. 1927, chap. 25, subsection 2 of section 31, and pursuant to the provisions of subsection 2 of section 13, and sections 27 and 28 of the Audit Act:

(A) Introduction and Miscellaneous Statements.
(B) Legal Opinion.
(C) Treasury Board Over-Ruling.
(D) Statement of Special Warrants.
(E) Statement of Treasury Board Minutes.

Respectfully submitted,

G. A. BROWN,
Provincial Auditor.

INDEX

PAGE

(A) Introduction and Miscellaneous Statements........................ 7

(B) Legal Opinion:

Re Grant to Cold Storage & Ice Company.................... 19

(C) Treasury Board Over-Ruling:

Administration of Justice Expenses Accounts.................. 23

(D) Special Warrants.. 33

(E) Treasury Board Minutes.................................. 41

A

INTRODUCTION AND MISCELLANEOUS STATEMENTS

Report of the Provincial Auditor

INTRODUCTION

I have the honour to submit my report for the fiscal year ended October 31st, 1931, pursuant to the provisions of subsection 2 of section 13 and sections 27 and 28 of The Audit Act, R.S.O. 1927, chapter 25.

Ordinary Revenue	$54,390,092 37
Ordinary Expenditure	54,846,994 28
Excess of Ordinary Expenditure over Ordinary Revenue	$456,901 91

STATEMENT SHOWING SOURCES OF ORDINARY REVENUE

Fiscal Year Ending October 31st, 1931

DOMINION GOVERNMENT—ANNUAL SUBSIDY		$2,642,611 68
REVENUE DERIVED FROM INDIVIDUALS AND CORPORATIONS RECEIVING THE BENEFIT OF PROVINCIAL SERVICES, SPECIAL PRIVILEGES OR THE USE OF NATURAL RESOURCES AND PROPERTIES AND PROFITS FROM TRADING, ETC.:		
Taxation Gasoline, Mines, Lands, Corporations, Race Tracks (betting), Amusements, and Stock Transfers.	$18,366,360 26	
Licenses Motor Vehicles, Liquor Permits, Hunting and Fishing, Insurance, Loan and Trust Companies, Mines, Race Tracks, Theatres, etc.	7,423,287 16	
Fees Local Registrars, Police Magistrates, Crown Attorneys, etc.; Fire Marshal, Mine Recording, Companies and Brokers Registration, etc.; Land Transfers, Motor Vehicle Transfers, etc.	2,307,691 56	
Fines and Penalties	149,392 51	
Profits from Trading Activities Liquor Control Board—Profits, Fines, Sale of Confiscated Liquor, etc.	10,015,000 00	
Succession Duties	9,504,814 04	
Natural Resources	3,615,398 56	
Interest on Drainage and Sundry Loans	198,552 02	
Miscellaneous Ontario Gazette, sale of Government publications, and casual revenue.	166,984 58	
		51,747,480 69
		$54,390,092 37

PROVINCIAL DEBT

Statement Showing Investment Thereof as at October 31st, 1931

FUNDED DEBT:			
Stock and Debentures outstanding			$455,375,344 54
Certificates and Annuities			1,455,918 78
			$456,831,263 32
Deduct—Sinking Fund Investments—			
Registered Stocks		$2,627,667 28	
"AM"—Sinking Fund		715,000 00	
"AN"— " "		337,000 00	
Hydro-Electric Power Commission—Ontario bonds deposited with Treasury		2,101,000 00	
			5,780,667 28
Total Funded Debt			$451,050,596 04
UNFUNDED DEBT:			
Treasury Bills		$26,040,000 00	
Savings Office Deposits		26,855,844 00	
Special Funds, Accounts Payable and Accrued Interest		14,620,060 67	
			67,515,904 67
Gross Debt			$518,566,500 71
INVESTMENT THEREOF:			
Revenue Producing and Realizable Assets—			
Hydro-Electric Power Commission—advances		$188,377,180 39	
Less—Sinking Fund Investments deposited		2,101,000 00	
		$186,276,180 39	
Temiskaming and Northern Ontario Railway—advances		30,207,934 92	
Farm, Housing and Settlers' Loans		46,154,966 93	
Cash and Accounts Receivable	$9,204,151 79		
King's Highways—Construction—Counties and Cities	2,696,137 82		
		11,900,289 61	
			274,539,371 85
Revenue Producing but not Realizable Assets—			
Roads and Highways	$165,358,395 31		
Less—Due by Cities and Counties	2,696,137 82		
		$162,662,257 49	
Niagara Parks		2,001,029 41	
Common School Fund—Trust Fund; Ontario and Quebec		1,484,153 81	
			166,147,440 71
Total Revenue Producing Assets			$440,686,812 56
Non-Revenue Producing Assets—			
Provincial buildings and public works		$53,492,166 75	
Plant, stores and equipment		2,546,889 57	
Deferred assets		104,133 65	
			56,143,189 97
Other Assets—			
Capitalized value of annual subsidy			52,852,233 60
Total Assets			$549,682,236 13
Excess of Assets over Liabilities			$ 31,115,735 42

HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

Advances by Province to October 31st, 1931

Advanced on Capital Account to October 31st, 1930		$187,474,476 18
Advances during current year		13,911,703 00
		$201,386,179 18
Deduct:		
Refund of Capital Advances not required	$388,712 70	
Sale of Properties	169,790 12	
		558,502 82
Total Advances to date		$200,827,676 36
Repayments from Sinking Fund in accordance with Debt Retirement Plan—		
To October 31st, 1930	$10,675,033 88	
Current year	1,775,462 09	
		12,450,495 97
Net Advances to October 31st, 1931		$188,377,180 39

Note—Province of Ontario Bonds, $2,101,000, have been deposited with the Provincial Treasurer on account of Sinking Fund for the repayment of advances, in excess of cash payments called for and made under the Debt Retirement Plan.

AGRICULTURAL DEVELOPMENT FINANCE ACT

R.S.O. 1927, Cap. 67

Statement Showing Deposits in Province of Ontario Savings Offices, and Agricultural Loans as at October 31st, 1931

DEPOSITS IN SAVINGS OFFICES BY PUBLIC AT OCTOBER 31ST, 1931		$ 26,855,844 00
AGRICULTURAL DEVELOPMENT FINANCE ACT—INVESTMENTS—		
Agricultural Development Board—Debentures	$ 43,038,000 00	
Less: Repayments to date	6,688,000 00	
	$ 36,350,000 00	
Accrued Interest	1,063,010 99	
		$37,413,010 99
Farm Loans Act—Farm Loan Associations		171,986 57
" " " —Capital Stock in Associations		2,595 00
		$ 37,587,592 56
Savings Offices—		
Cash on hand and in banks	$ 735,769 27	
Accounts receivable	1,000 00	
Fixtures (depreciated value)	49,018 87	
		785,788 14
		$ 38,373,380 70

PUBLIC SERVICE SUPERANNUATION FUND

R.S.O. 1927, Cap. 16, Part III

As at October 31st, 1931

Balance at credit of Fund—November 1st, 1930				$3,186,935 70
Contributions to Fund—				
By Employees			$439,871 20	
By Government (Sec. 39)	$439,871 20			
Less Refunds (Sec. 36)	35,239 52			
		$404,631 68		
For Sheriffs (Sec. 60)		11,187 62		
			415,819 30	
Interest—				
On balance to credit of Fund at November 1st, 1930		$159,346 79		
On Employees' Contribution	$ 9,045 53			
On Government Contributions	9,045 53			
	$ 18,091 06			
Less interest allowed Government on payments	7,741 41			
		10,349 65		
			169,696 44	
				1,025,386 94
				$4,212,322 64
DEDUCT—				
Benefits Paid—				
Allowances to superannuates and beneficiaries			$360,822 89	
Lump sum payments, Secs. 34, 35 and 45			8,305 82	
Refunds under Sec. 36			35,239 52	
Interest on refunds and lump sum payments			5,155 45	
				409,523 68
Balance at Credit of Fund at October 31st, 1931				$3,802,798 96

HIGHWAY IMPROVEMENT FUND

R.S.O. 1927, chap. 54, sec. 9.

CREDITS TO FUND, NOVEMBER 1ST, 1930:		
Balance carried from 1929-1930	$5,668,646 69	
Consolidated Revenue, 20 Geo. V, chapter 11	3,000,000 00	
Gasoline Tax	10,756,835 83	
Motor Vehicles	5,547,254 58	
County Repayments	2,466,216 72	
Suburban Area	783,726 09	
Miscellaneous	458,680 21	
		$28,681,360 12
DEBITS AGAINST FUND TO OCTOBER 31ST, 1931:		
Provincial Highways	$12,670,000 00	
County Roads	4,417,696 10	
Township Roads	2,309,576 36	
Connecting Links	29,603 14	
Indian Reserve Roads	40,854 13	
		19,467,729 73
Balance to Credit		$9,213,630 39

G. A. BROWN,
Provincial Auditor.

Statement showing the remuneration paid to Officials in the Parliament Buildings who received pay from more than one source during the Fiscal Year 1930-31

Name	Page Pub.Acc.	Amount	Total
		$ c.	$ c.
Prime Minister's Dept.:			
King's Printer's Office—			
Petley, Helen	B 7	1,800 00	
“	C 5	200 00	2,000 00
Legislation:			
Brown, R.	C 4	1,215 38	
“	C 5	75 00	1,290 38
Dies, R.	C 4	1,700 00	
“	C 5	200 00	1,900 00
Dymond, A. M.	C 6	5,400 00	
“	D 34	1,000 00	6,400 00
Harvey, W. G.	C 6	1,699 92	
“	C 5	400 00	2,099 92
Rice, M. B.	C 6	1,500 00	
“	C 5	50 00	1,550 00
Attorney-General's Dept.:			
Coo, W. C.	D 29	1,575 00	
“	D 12	91 15	
“	D 13	74 00	1,740 15
Ellis, J. A.	D 29	4,000 00	
“	R 6	2,000 00	
“	O 15	1,000 00	7,000 00
Humphries, I. A.	D 8	5,200 00	
“	C 5	1,000 00	6,200 00
James, W. A.	D 27	2,812 30	
“	D 11	400 00	3,212 30
Insurance:			
Foster, R. L.	E 3	6,000 00	
“	D 11	2,500 00	8,500 00
Education Dept.:			
Anglin, R. W.	F 46	4,600 00	
“	F 30	610 40	5,210 40
Beecroft, W. A.	F 30	3,000 00	
“	F 31	150 00	3,150 00
Beneteau, A. J.	F 26	5,000 00	
“	F 31	300 00	
“	F 31	1,002 50	
“	F 30	311 50	6,614 00
Campbell, J. D.	F 26	4,200 00	
“	F 30	193 80	4,393 80
Cowles, J. P.	F 30	4,600 00	
“	F 31	500 00	
“	F 30	45 00	5,145 00

Statement showing the remuneration paid to Officials in the Parliament Buildings who received pay from more than one source during the Fiscal Year 1930-31—Continued

Name	Page Pub.Acc.	Amount	Total
EDUCATION DEPT.—Continued		$ c.	$ c.
Dandeno, J. B.	F 26	4,000 00	
"	F 25	750 00	4,750 00
De Laporte Helen	F 26	2,550 00	
"	F 30	279 70	2,829 70
Hoag, J. P.	F 26	4,600 00	
"	F 31	300 00	
"	F 30	717 40	5,617 40
Hooper, A. G.	F 46	4,600 00	
"	F 31	500 00	5,100 00
Karr, W. J.	F 26	5,000 00	
"	F 31	2,300 00	
"	F 30	816 20	8,116 20
Kerfoot, H. M.	F 31	4,300 00	
"	F 30	200 00	4,500 00
Leake, A. H.	F 26	3,800 00	
"	F 30	240 00	4,040 00
Levan, I. M.	F 46	3,766 63	
"	F 48	200 00	
"	F 31	500 00	
"	F 30	67 50	4,534 13
Merchant, F. W.	F 16	6,166 66	
"	F 31	500 00	6,666 66
McDougall, J. B.	F 26	4,200 00	
"	F 30	835 00	5,035 00
Rogers, G. F.	F 16	5,400 00	
"	F 31	800 00	
"	F 30	1,237 40	7,437 40
Rutherford, F. S.	F 51	4,466 66	
"	F 30	1,060 00	5,526 66
Sorsoliel, M. A.	F 51	2,799 97	
"	F 53	1,333 36	
"	F 30	807 20	4,940 53
Walker, D.	F 31	5,000 00	
"	F 31	800 00	
"	F 30	266 20	6,066 20
Walton, G.	F 16	2,000 00	
"	F 17	70 72	2,070 72
LANDS AND FORESTS DEPT.:			
Rorke, L. V.	G 31	5,400 00	
"	G 12	1,000 00	6,400 00
MINES DEPT.:			
Murray, R. H.	I 17	3,000 00	
"	S 39	878 00	3,878 00

Statement showing the remuneration paid to Officials in the Parliament Buildings who received pay from more than one source during the Fiscal Year 1930-31—Continued

Name	Page Pub.Acc.	Amount	Total
		$ c.	$ c.
PUBLIC WORKS DEPT.:			
Bain, W.	K 14	675 00	
"	C 5	50 00	725 00
Bennett, Jno.	K 15	1,600 00	
"	C 5	50 00	1,650 00
Campbell, W.	K 14	1,700 00	
"	C 5	50 00	1,750 00
Cordell, T.	K 15	1,400 00	
"	C 5	50 00	1,450 00
Lowe, S.	K 16	1,200 00	
"	C 5	50 00	1,250 00
Sexsmith, E. M.	K 16	1,600 00	
"	C 5	50 00	1,650 00
Thompson, W.	K 14	1,541 67	
"	C 5	50 00	1,591 67
HIGHWAYS DEPT.:			
Smith, R. M.	L 4	6,000 00	
"	L 6	1,500 00	7,500 00
HEALTH DEPT.:			
Baycroft, B.	M 19	1,125 00	
"	M 20	41 50	1,166 50
Butterworth, E.	M 19	816 63	
"	M 20	209 75	1,026 38
Brydson, L.	M 19	1,050 00	
"	M 20	164 75	1,214 75
Chew, A. M.	M 19	1,300 00	
"	M 20	19 00	1,319 00
Cogle J.	M 19	1,250 00	
"	M 20	192 75	1,442 75
Conboy, Dr. F. J.	M 14	4,000 00	
"	F 25	75 00	4,075 00
Copp, M.	M 19	1,200 00	
"	M 20	40 00	1,240 00
Crossley, V.	M 19	1,800 00	
"	M 20	42 00	1,842 00
Fenton, W.	M 19	1,600 00	
"	M 20	179 75	1,779 75
French, R.	M 19	400 00	
"	M 20	32 50	432 50
Hughes, R.	M 19	656 25	
"	M 20	4 00	660 25

Statement showing the remuneration paid to Officials in the Parliament Buildings who received pay from more than one source during the Fiscal Year 1930-31—Continued

Name	Page Pub.Acc.	Amount	Total
HEALTH DEPT.—Continued		$ c.	$ c.
Iler, R.	M 19	300 00	
"	M 20	7 00	307 00
Jamieson, Ella J.	M 13	1,583 30	
"	F 25	220 00	1,803 30
Jewell, E.	M 19	1,500 00	
"	M 20	174 25	1,674 25
McClure, A. D.	M 19	2,025 00	
"	M 20	143 50	2,168 50
McKay, W.	M 19	373 07	
"	M 20	61 75	434 82
McNabb, Dr. A. L.	M 19	4,200 00	
"	M 20	78 00	4,278 00
Murphy, W.	M 19	750 00	
"	M 20	140 25	890 25
Phair, Dr. J. T.	M 13	4,400 00	
"	F 30	344 00	4,744 00
Robbins, H. M.	M 23	5,400 00	
"	R 10	500 00	5,900 00
Smith, C. R.	M 19	1,725 00	
"	M 20	166 75	1,891 75
Ward, M. D.	M 19	1,600 00	
"	M 20	44 00	1,644 00
Wilson, Dr. W. M.	M 19	2,041 62	
"	M 20	55 00	2,096 62
Provincial Auditor's Office:			
Boyd, R. J. L.	Q 3	2,200 00	
"	Q 4	49 50	2,249 50
Duggan, Chas.	Q 3	1,523 03	
"	Q 4	49 50	1,572 53
Laing, Jno. D.	Q 3	2,000 00	
"	Q 4	46 50	2,046 50
Jennings, T. R.	Q 3	4,200 00	
"	S 40	1,200 00	5,400 00
MacFadyen, H. H.	Q 3	2,850 00	
"	Q 4	49 50	2,899 50
Rankin, M. D.	Q 3	1,900 00	
"	Q 4	49 50	1,949 50
Watson, C. V.	Q 3	2,000 00	
	Q 4	49 50	2,049 50
PROVINCIAL SECRETARY'S DEPT.:			
Crawford, W. J.	R 6	2,400 00	
"	R 6	200 00	2,600 00

Statement showing the remuneration paid to Officials in the Parliament Buildings who received pay from more than one source during the Fiscal Year 1930-31—Continued

Name	Page Pub.Acc.	Amount	Total
PROVINCIAL SECRETARY'S DEPT.—Continued		$ c.	$ c.
Hoolihan, J. J.	R 6	2,000 00	
"	R 6	200 00	
			2,200 00
Lavell, Dr. A. E.	R 7	3,800 00	
"	R 7	235 00	
			4,035 00
Semple, A. E.	R 6	3,300 00	
"	C 5	50 00	
			3,350 00
Venables, A. E.	R 6	1,600 00	
"	B 6	20 00	
"	M 15	453 99	
			2,073 99
AGRICULTURE DEPT.:			
Carroll, J. A.	S 36	3,600 00	
"	S 36	300 00	
			3,900 00
Elliott, G. A.	S 40	3,300 00	
"	S 40	200 00	
			3,500 00

B

LEGAL OPINION

LEGAL OPINION

Re Special Warrant—Growers Cold Storage and Ice Company

Provincial Auditor's Office,
Toronto, May 11th, 1931.

Edward Bayly, K.C.,
Deputy Attorney-General.

Dear Mr. Bayly:

Under the provisions of clause (*b*), subsection 1 of section 13 of The Audit Act, chap. 25, R.S.O., 1927, a Special Warrant was passed April 21st, 1931, for the sum of $25,000.00 to give financial assistance to the Growers Cold Storage and Ice Company; $10,000.00 to be used as working capital and $15,000.00 for repairs to buildings of the company.

The requisition for the payment of $25,000.00 to the Growers Cold Storage and Ice Company is now before me, but it is my opinion that the Act under which Special Warrants are issued did not contemplate making grants to private companies. I have therefore reported to the Honourable the Minister that the expenditure is not authorized by law.

Having discussed the matter with the Minister, he requested me to submit the question to you for your opinion. May I therefore ask if you will kindly let me have a legal opinion pursuant to section 13 of The Audit Act, section 1, subsections (*a*) and (*b*).

Yours very truly,

G. A. Brown,
Provincial Auditor.

Attorney-General's Department,
Toronto, May 12th, 1931.

Memorandum to the Provincial Auditor,
Parliament Buildings.

I have considered the effect of the legislation referred to, and it appears to me that the responsibility is entirely with the Lieutenant-Governor in Council (i.e. the Government) and that if a Special Warrant is prepared under his or its order and signed by the Honourable the Lieutenant-Governor, that order *must* be obeyed and the Auditor is really outside the whole transaction.

E. Bayly,
Deputy Attorney-General.

C

TREASURY BOARD OVER-RULING

TREASURY BOARD OVER-RULING

Re The Administration of Justice Expenses Act

Department of Attorney-General,
November 30th, 1931.

Dear Sir:

The Auditor of Criminal Justice Accounts informs me that you have returned to him certain requisitions for the payment of accounts, under section 13 of The Administration of Justice Expenses Act, (1) because the accounts were not attached to the requisitions, and (2) because the accounts were not signed by the Attorney-General.

The power of the Deputy Attorney-General to sign these accounts, under section 13 of The Administration of Justice Expenses Act, was determined by the Treasury Board on the 22nd July, 1920, section 13 then being known as section 14 of The Administration of Justice Expenses Act. If further authority is needed, I refer you to The Interpretation Act, section 28 (1).

With regard to objection No. 1, I am of the opinion that section 13 of The Administration of Justice Expenses Act does not require any person to render an account, and that such person is entitled to be paid any sum which the Attorney-General (or his lawful Deputy) directs to be paid; the requisition, however, should provide that the payment is directed to be made pursuant to section 13.

The Auditor of Criminal Justice Accounts was in error in attaching his certificate for the payment of these accounts, under section 16 (3) of The Administration of Justice Expenses Act.

Yours faithfully,

E. Bayly,
Deputy Attorney-General.

Gordon A. Brown, Esq.,
Provincial Auditor,
Buildings.

Provincial Auditor's Office,
December 15th, 1931.

Mr. Edward Bayly, K.C.,
Deputy Attorney-General.

Re The Administration of Justice Expenses Act.

Dear Sir:

I am in receipt of your letter of November 20th, wherein you have attempted to justify the passing for payment, requisitions for persons who have rendered services under section 13 of The Administration of Justice Expenses Act, merely on the approval of the Deputy Attorney-General without submitting the accounts.

In support of your contention, you refer me to a ruling of the Treasury Board of the 22nd July, 1920, and also a further reference to The Interpretation Act, as to the powers of a Deputy, stating that the approval of the Deputy Attorney-General on requisitions pertaining to expenses under section 13 of the Act above referred to is sufficient authority for the Auditor to pass such requisitions for payment.

You further state that section 13 of The Administration of Justice Expenses Act does not require any person to render an account.

Permit me to state that I do not agree with that statement. Section 13 provides as follows: "Where services are rendered by any person in connection with any prosecution and such services are rendered by the direction or with the approval of the Attorney-General, *the person by whom they are rendered* shall be entitled to be paid such sum as the Attorney-General may direct."

May I ask what other interpretation could be placed on that section, than that the person rendering a service must submit an account for the services performed, the payment of which, and the amount to be paid is fixed by the Attorney-General or his lawful Deputy.

Therefore, in view of the several requisitions which have been forwarded for payment, I must insist on the accounts, properly certified to by the Attorney-General or his Deputy, be attached before payment is authorized.

Requisitions held:—

A. G. Newall, et al	$76 05
Disbursing Clerk, Washington	221 63
Clarkson, Gordon, Dilworth & Company	253 60
Royal Canadian Mounted Police	110 00
E. Nield	726 30
C. F. Moore	1,000 00

I would very much appreciate your early attention to the matter.

Yours very truly,

G. A. Brown,
Provincial Auditor.

Department of Attorney-General,
December 16th, 1931.

My Dear Sir:

Re The Administration of Justice Expenses Act.

Relpying to your letter of December 15th, I beg to say that The Administration of Justice Expenses Act, section 13, is quite clear and while I do not consider the submission of accounts a matter of very much importance, it is quite obvious that section 13 does not require any submission of accounts at all (although, of course, that course would be usual), because the person by whom the services are rendered, is entitled to be paid such sum as the Attorney-General may direct. If no bill were rendered, the Attorney-General's direction is all that is required.

This seems to me quite clear and I would say, answering the question asked in the fifth paragraph of your letter, "What other interpretation could be placed on that section, etc.," that all you require is a certificate of the Attorney-General, or his Deputy, that the sum had been fixed for certain services rendered. This, of course, is not really the point at issue at all, because accounts are always rendered.

The contention of the Auditor of Criminal Justice Accounts (in which I support him, if he chooses to press it) is that the Audit Office is not entitled to accounts at all and that they would have no right to revise accounts and that their possession would do them no good.

If you really think that section 13 admits of the interpretation you suggest, I shall be very glad to learn what statutory authority you rely on, because quite obviously the section itself does not in any way admit of the interpretation which you say you wish to place upon it.

I may add that in matters of law, I would not have thought that the Audit Office considered itself competent to give an opinion. This last is said not in a controversial way, but as a matter of fact. Certainly the interpretation you have placed upon section 13 is not a legal one, and I feel no responsibility whatever for the delay in passing your accounts.

Yours faithfully,

E. Bayly,
Deputy Attorney-General.

G. A. Brown, Esq.,
Provincial Auditor,
Buildings.

Provincial Auditor's Office,
December 22nd, 1931.

Mr. Edward Bayly, K.C.,
Deputy Attorney-General.

Dear Sir:

Re The Administration of Justice Expenses Act.

Referring to your letter of the 16th inst., wherein you have expressed an opinion that the submission of accounts under section 13 of the Act is not a matter of very much importance, and that the person by whom the services are rendered, even if no bill was rendered is entitled to be paid such sum as the Attorney-General may direct.

The above opinion may be a strictly legal interpretation of section 13, but in view of the fact that a legal opinion is insufficient authority upon which the Auditor may act, a ruling of the Treasury Board will be necessary to either sustain or over-ride the Auditor's objections, which in effect are that accounts properly certified to under section 13 should accompany every requisition presented to the Treasury for payment.

I shall not attempt to reply to the last three clauses of your letter as it would only lead to a useless controversy.

Accounts mentioned in my letter to you of the 15th inst. are being returned to the Auditor of Criminal Justice Accounts, who no doubt will bring the matter to your attention.

Yours very truly,

G. A. BROWN,
Provincial Auditor.

PROVINCIAL AUDITOR'S OFFICE,
December 22nd, 1931.

MR. C. A. FITCH,
Auditor, Criminal Justice Accounts.

DEAR SIR:

Re The Administration of Justice Expenses Act.

I am returning herewith the following requisitions, as I am unable to authorize the issue of cheques until properly certified accounts accompany the requisitions:—

A. G. Newall, et al	$76 05
Disbursing Clerk, Washington	221 63
Clarkson, Gordon & Dilworth	253 60
Royal Canadian Mounted Police	110 00
E. Nield	726 30
C. F. Moore	1,000 00

I have written the Deputy Attorney-General on the matter, who no doubt will discuss the whole situation with you.

Yours very truly,

G. A. BROWN,
Provincial Auditor.

DEPARTMENT OF ATTORNEY-GENERAL,
December 23rd, 1931.

DEAR SIR:

Re payment of accounts under section 13 of The Administration of Justice Expenses Act.

Referring to previous correspondence in this case, I beg to advise you that the question will be submitted to the Treasury Board.

Yours faithfully,

E. BAYLY,
Deputy Attorney-General.

GORDON A. BROWN, ESQ.,
Provincial Auditor,
Buildings.

DEPARTMENT OF ATTORNEY-GENERAL,
December 31st, 1931.

DEAR SIR:

I enclose herewith copy of the Attorney-General's letter and memorandum of December 28th to the Treasury Board.

Yours faithfully,

E. BAYLY,
Deputy Attorney-General.

G. A. BROWN, ESQ.,
Provincial Auditor,
Buildings.

DEPARTMENT OF THE ATTORNEY-GENERAL,
December 28th, 1931.

The Secretary,
Treasury Board, Buildings.

DEAR SIR:

Re Administration of Justice Accounts.

Pursuant to The Audit Act, R.S.O. 1927, chapter 25, section 13 (*c*), I hereby submit to the Treasury Board the matter of the issue of certain cheques requisitioned by my Department on requisition signed by the Deputy Attorney-General, directing the payment of certain moneys in connection with criminal prosecutions out of The Consolidated Revenue Fund, pursuant to section 13 of The Administration of Justice Expenses Act, as follows:—

A. Newall, et al	$76 05
Disbursing Clerk, Washington	221 63
Clarkson, Gordon & Dilworth	253 60
Royal Canadian Mounted Police	110 00
E. Nield	726 30
C. F. Moore	1,000 00

and all other accounts of a similar nature.

As required by the said section, I enclose the correspondence together with a memorandum setting out the facts.

Yours faithfully,

WILLIAM H. PRICE,
Attorney-General.

MEMORANDUM FOR THE TREASURY BOARD:

Re Payment of Administration of Justice Accounts.

1. The purpose for which the expenditures required is in connection with certain prosecutions.

2. The expenditure is chargeable to the Consolidated Revenue Fund.

3. The objection taken by the Auditor is—that the accounts (if any), rendered by the persons by whom the services were rendered did not accompany the requisitions for payment.

4. The answer to this objection is section 13 of The Administration of Justice Expenses Act, R.S.O. 1927, chapter 126, which reads as follows:—

> "13. Where services are rendered by any person in connection with any prosecution, and such services are rendered by the direction or with the approval of the Attorney-General, the person by whom they are rendered shall be entitled to be paid such sum as the Attorney-General may direct, and the same shall be charged upon and be paid out of the Consolidated Revenue Fund. 1926, c. 35, s. 14."

By this section, the Attorney-General may direct a sum of money to be paid to any person in connection with a prosecution and the Provincial Auditor has no jurisdiction to call in question the amount.

No provision is made for rendering accounts to the Attorney-General for these services and the Attorney-General may direct a sum of money to be paid to any person without any account having been rendered.

EXECUTIVE COUNCIL OFFICE.

Copy of a Minute of the Treasury Board, dated the 31st day of December, A.D., 1931.

A difference having arisen between the Provincial Auditor and the Department of the Attorney-General, as to the issue of cheques in payment of certain monies in connection with criminal prosecutions out of the Consolidated Revenue Fund, pursuant to section 13 of The Administration of Justice Expenses Act, chapter 126, R.S.O. 1927, as follows:

A. G. Newall, et al	$76 05
Disbursing Clerk, Washington	221 63
Clarkson, Gordon & Dilworth	253 60
Royal Canadian Mounted Police	110 00
E. Nield	726 30
C. F. Moore	1,000 00

and the matter having been referred by the Attorney-General for the determination of the Treasury Board under the provisions of clause (*c*), subsection 1, of section 13, of The Audit Act, chapter 25, R.S.O. 1927.

Upon consideration of the correspondence and the memorandum submitted by the Honourable the Attorney-General, the Treasury Board is of opinion that the Auditor's objections are insufficient and directs that cheques shall forthwith issue for the amounts in question, payable out of the Consolidated Revenue Fund, without the submission of accounts in connection with said services.

Certified,

C. F. BULMER,
Clerk, Treasury Board.

D

SPECIAL WARRANTS

D

SPECIAL WARRANTS

STATEMENT OF SPECIAL WARRANTS ISSUED DURING THE FISCAL YEAR ENDED OCTOBER 31ST, 1931

Date of Warrant	SERVICE		Warrants	Expended 1930–31	Unexpended
		$ c.	$ c.	$ c.	$ c.
	Prime Minister's Department				
	General Advertising—				
	Balance unexpended, 1929–30	888 63			
Feb. 10th, 1931	Warrant	2,000 00	2,888 63	2,419 34	469 29
	Public Welfare Commission, Expenses— Balance unexpended, 1929–30		4,712 14	700 29	4,011 85
June 18th, 1931	Royal Society of Canada in Toronto, grant towards expenses of meeting and expenses of dinner tendered by the Government— Warrant		2,330 00	2,330 00	
June 18th, 1931	Ontario Motor League, contribution towards expenses of the Goodwill Tour— Warrant		500 00	500 00	
April 21st, 1931	Hydro-Electric Power Commission, to retire bonds of the Wahnapitae Power Company, assumed by the Commission— Warrant		481,005 00	481,005 00	
June 23rd, 1931	Annual Convention of the Dominion Command of the Amputation Association, to assist in defraying expenses— Warrant		200 00	200 00	
June 30th, 1931	World's Assembly of Young Men's Christian Associations, towards expenses of delegates other than those from Canada and the United States— Warrant		2,500 00	2,500 00	

	Education Department				
	Purchase and distribution of books for the Elementary and Secondary Schools and Public Libraries of the Province, etc.—				
	Balance unexpended, 1929-30	32,959 38			
Jan. 14th, 1931	Warrant	15,000 00	47,959 38	13,778 90	34,180 48
	Canadian Bureau for the Advancement of Music, to assist in the general development of music in the Province, grant—				
Dec. 17th, 1930	Warrant	....	2,000 00	2,000 00	
	Queen's University re extension of Kingston General Hospital, grant—				
April 14th, 1931	Warrant	....	50,000 00	50,000 00	
	Board of Trustees, Royal Ontario Museum, cost of new building, etc.—				
June 18th, 1931	Warrant	....	2,003,443 16	683,645 45	1,319,797 71
	University of Toronto, re extension, equipment and furnishings, Ontario College of Education—				
Oct. 14th, 1931	Warrant	....	111,000 00	63,820 97	47,179 03
	Lands and Forests Department				
	To pay claimants, etc., in connection with the hardwood industry, north shore of Lake Huron, re Matininda Forests Products, Ltd., a subsidiary of the Mississagi Development Syndicate—				
	Balance unexpended, 1929-30	906 82			
July 28th, 1931	Warrant	1,000 00	1,906 82	1,831 82	75 00
	Northern Development Department				
	Costs and expenses incurred in connection with the Northern Development Exhibit at the Canadian National Exhibition, Toronto—				
	Balance unexpected, 1929-30	1,722 05			
July 28th, 1931	Warrant	2,500 00	4,222 05	2,106 40	2,115 65
	Expenses of trip to Northern Ontario by certain members of the Executive of the Ontario Good Roads Association, and others—				
Oct. 30th, 1931	Warrant	....	600 00	490 65	109 35
	Trans-Canada Highway—Unemployment relief, wages, expenses, etc.—				
Sept. 15th, 1931	Warrant	....	1,000,000 00	264,433 55	735,566 45
	Construction of Roads and general work in Northern Ontario—Unemployment relief—				
Sept. 15th, 1931	Warrant	....	1,000,000 00	118,086 76	881,913 24

SPECIAL WARRANTS—Continued

STATEMENT OF SPECIAL WARRANTS ISSUED DURING THE FISCAL YEAR ENDED OCTOBER 31ST, 1931

Date of Warrant	SERVICE		Warrants	Expended 1930–31	Unexpended
		$ c.	$ c.	$ c.	$ c.
	Public Works Department				
July 6th, 1931	Boys' Training School, Bowmanville, repairs to buildings— Warrant		1,000 00	166 40	833 60
July 28th, 1931	Ontario Hospital, Woodstock, expropriation of land, etc.— Warrant		1,200 00	1,200 00	
July 28th, 1931	Construction of Boys' Camp at Lake Couchiching, for the Athletic Commission— Warrant		10,000 00	9,980 74	19 26
Sept. 29th, 1931	Purchase and installation of wire rope testing machine, East Block, Parliament Buildings— Warrant		22,300 00	11,150 00	11,150 00
Oct. 27th, 1931	Construction of Sewage Disposal Works at Ontario Hospital, Penetanguishene— Warrant		16,025 00	2,128 26	13,896 74
	Health Department				
June 4th, 1931	Travelling and other expenses of the Commission appointed to investigate and report on the treatment of cancer— Warrant		15,000 00	8,100 11	6,899 89
Dec. 9th, 1931	Special work on the building occupied by the Public Health Laboratory, North Bay— Warrant		1,000 00	1,000 00	
Dec. 9th, 1930	Discharge from all actions, etc., against the Government, etc., re stay of John O'Neil at the Toronto Psychiatric Hospital— Warrant		400 00	400 00	

	Labour Department				
Sept. 23rd, 1931	Unemployment Relief, to relieve distress and provide employment, including the expenses of administration— Warrant		1,000,000 00	1,209 96	998,790 04
July 21st, 1931	V. A. Sinclair, to reimburse him for expenses incurred in attending the International Labour Convention at Geneva— Warrant		290 00	290 00	
July 28th, 1931	City of Windsor ($6,000.00) and City of Cornwall ($200.00), one-third of excess labour cost of Unemployment Relief Work, March and April, 1930— Warrant		6,200 00	6,200 00	
April 28th, 1931	Canadian Association of Stationary Engineers, Convention Committee, to assist in the convention held in Toronto— Warrant		25 00	25 00	
May 29th, 1931	Miss Laura Chartrand, for services rendered in connection with the Ottawa Office of the Provincial Employment Service— Warrant		550 00	550 00	
Aug. 13th, 1931	Empire Life Insurance Co., premium on policy insuring F. A. Swarbrick, caisson inspector, against injury, death or permanent disability— Warrant		266 50	266 50	
	Public Welfare Department				
Dec. 9th, 1930	Establishing a club-house in the City of Toronto in connection with the Boys' Training School, Bowmanville, rental, furnishings, equipment, maintenance, etc.— Warrant		5,000 00	3,739 47	1,260 53
Feb. 10th, 1931	Grant to assist the Ontario Society for Crippled Children in providing, etc., for the care of handicapped children in the Province— Warrant		10,000 00	10,000 00	
Feb. 10th, 1931	Grant to assist the Community Welfare Council of Ontario in developing public interest in social work and providing more effective social welfare organizations— Warrant		3,000 00	3,000 00	
Oct. 2nd, 1931	Canadian Council on Child and Family Welfare, grant to assist in carrying on of work— Warrant		2,000 00	2,000 00	

SPECIAL WARRANTS—Continued

STATEMENT OF SPECIAL WARRANTS ISSUED DURING THE FISCAL YEAR ENDED OCTOBER 31st, 1931

Date of Warrant	SERVICE		Warrants	Expended 1930–31	Unexpended
		$ c.	$ c.	$ c.	$ c.
	Maintenance of patients transferred from Public Hospitals to Houses of Refuge, to October 31st, 1931—				
July 6th, 1931	Warrant		2,000 00	323 00	1,677 00
	Departmental Exhibit at exhibitions during fiscal year 1930–31—				
Sept. 29th, 1931	Warrant		3,500 00	3,118 21	381 79
	Provincial Secretary's Department				
	Expropriation of land at Burwash Industrial Farm—William Davis, $350.00, and Ontario Prohibition Union, $280.00—				
May 7th, 1931	Warrant		630 00	630 00	
	Darrell Lacount, discharge of liabilities re accident to him at Ontario Reformatory, Guelph—				
June 4th, 1931	Warrant		250 00	250 00	
	Agriculture Department				
	Canadian Society of Technical Agriculturists, grant re expenses of convention—				
June 18th, 1931	Warrant		1,500 00	1,500 00	
	Investigation of the production and marketing of Ontario milk and milk products—Honorarium, expenses, etc.—				
June 18th, 1931	Warrant		5,000 00	3,185 52	1,814 48
	British Welcome and Welfare League, grant—				
Dec. 9th, 1930	Warrant		1,000 00	1,000 00	
	Canadian Lakehead Exhibition Association, grant for expenses re Agricultural Short Courses for young men and women in the district—				
Jan. 20th, 1931	Warrant		1,000 00	1,000 00	

	Prizes and expenses re free trip to Royal Winter Fair, for the five girls standing highest in each county and district in Ontario—				
Dec. 9th, 1930	Warrant		8,500 00	8,493 79	6 21
	Ontario Research Foundation, re investigation and research with regard to Bovine Infectious Abortion—				
Feb. 25th, 1930	Warrant		8,830 76	8,830 76	
	Growers Cold Storage and Ice Company, Ltd., grant for working capital and repairs of buildings—				
June 18th, 1931	Warrant		25,000 00	25,000 00	
	Norfolk Fruit Growers' Association, grant towards enlargement of Cold Storage Plant—				
Aug. 6th, 1931	Warrant		87,000 00	87,000 00	
	General Miscellaneous				
	Ontario Research Foundation, payments under Section 7 of the Research Foundation Act, 1928—				
Nov. 19th, 1930	Warrant	171,115 00			
May 14th, 1931	Warrant	138,036 25	309,151 25	309,151 25	
	Canadian National Institute for the Blind, arrears of grant to assist in maintaining and developing its activities on behalf of the adult blind of the Province—				
Dec. 30th, 1930	Warrant		14,829 71	14,829 71	
	Poppy Day Fund, special grant, to assist in defraying the expenses of their activities—				
Jan. 6th, 1931	Warrant		600 00	600 00	
	Citizens' Service Association, grant to assist in work in connection with reestablishment of ex-prisoners—				
Feb. 3rd, 1931	Warrant		5,000 00	5,000 00	
	Empire Parliamentary Association, Ontario Branch, grant—				
April 21st, 1931	Warrant		1,000 00	1,000 00	
	Ontario Rifle Association (Inc.), grant—				
May 7th, 1931	Warrant		500 00	500 00	
	Canadian Women's Christian Temperance Union, to assist in expenses of 1931 World Convention—				
May 29th, 1931	Warrant		1,500 00	1,500 00	

SPECIAL WARRANTS—Continued

STATEMENT OF SPECIAL WARRANTS ISSUED DURING THE FISCAL YEAR ENDED OCTOBER 31st, 1931

Date of Warrant	SERVICE		Warrants	Expended 1930–31	Unexpended
		$ c.	$ c.	$ c.	$ c.
	Labour Educational Association of Ontario, to assist in their work—				
May 29th, 1931	Warrant		100 00	100 00	
	Ontario Division of the Canadian Red Cross Society, balance of grant of 10% of subscriptions, etc., collected during the years 1928, 1929 and 1930—				
Sept. 25th, 1931	Warrant		20,793 00	20,793 00	
	Veterans' Reunion Council, grant re expenses in connection with Warriors' Day at Canadian National Exhibition—				
Oct. 20th, 1931	Warrant		500 00	500 00	
	Canadian Military Institute, grant—				
Oct. 30th, 1931	Warrant		600 00	600 00	
	Total Special Warrants		6,308,308 40	2,246,160 81	4,062,147 59

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TREASURY BOARD MINUTES

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TREASURY BOARD MINUTES

STATEMENT OF TREASURY BOARD MINUTES ISSUED FOR EXPENDITURES IN EXCESS OF APPROPRIATIONS DURING THE FISCAL YEAR ENDED OCTOBER 31st, 1931

Prime Minister's Department

	Warrant	Expended
Executive Council Office, Contingencies	$6,500 00	$6,086 96
Publicity and Information Bureau, printing and distributing booklets, advertising tourists' attractions, etc	30,000 00	22,551 41
Hydro-Electric Power Commission—		
Thunder Bay System, Alexander Development	268,325 00	268,325 00
Central Ontario System, Developments, Miscellaneous Extensions and Betterments	10,000 00	10,000 00
Transmission and Distribution Lines, Rural Distribution	27,500 00	27,500 00
Nipissing System, Transformer Stations and Transmission Lines, Rural Distribution	5,000 00	5,000 00

Legislation

Sessional Writers, Messengers, etc	600 00	568 59
Contingencies	200 00	87 04
Stationery, Distributing Statutes, Printing, etc	2,000 00	1,916 50

Attorney-General's Department

General—Shorthand Reporters, Contingencies	1,500 00	1,463 49
Crown Counsel Prosecutions	17,000 00	16,951 62
Commissions and Sundry Investigations	8,000 00	6,099 44
Security Frauds' Prevention Act, services and expenses	21,000 00	19,716 80
Supreme Court, Contingencies	2,300 00	2,007 05
Law Enforcement Fund	60,177 08	39,104 08
Toronto and York Crown Attorney, salaries	1,612 50	1,187 50
Administration of Justice—		
Audit of Criminal Justice Accounts, salaries	337 50	337 50
General Administration of Justice, Counties	90,000 00	50,575 15
" " " Districts	40,000 00	18,632 99
District of Manitoulin	2,000 00	1,697 92
District of Sudbury, fuel, light and water	7,000 00	4,778 64
District of Temiskaming, gaolers, lock-up keepers, etc	750 00	689 75
Inspection of Legal Offices—		
Salaries	531 25	114 99
Printing, stationery and contingencies	800 00	364 45
Miscellaneous, Division of Fire Investigation	3,925 00	2,926 47

Insurance Department

Contingencies	2,500 00	1,315 66
Printing Annual Report, etc	700 00	568 79

Education Department

Public and Separate School Education—		
Rural, Public and Separate Schools, Grants and Contingencies	920,000 00	855,889 64
Assisted Public and Separate Schools, Grants and Contingencies	50,000 00	27,626 47
Public, Separate and Continuation Schools, Cadet Corps	600 00	513 50
Kindergarten Schools	13,500 00	13,017 70
Night Schools	2,500 00	2,148 91
Consolidated Schools	20,000 00	19,618 46
Agricultural and Horticultural Grants to School Boards, Teachers and Inspectors	107,000 00	106,876 16
Industrial Arts, Manual Training and Household Science, Grants and Contingencies	49,500 00	49,119 52
Continuation Schools	36,000 00	34,968 45

TREASURY BOARD MINUTES—Continued

Education Department—Continued

	Warrant	Expended
Public and Separate School Education—*Continued*		
Fifth Classes	5,300 00	5,271 83
Spring and Summer Schools	35,000 00	27,886 36
Art Department and Teachers in Art, in Public, Separate and Continuation Schools	1,500 00	1,466 00
School Boards, etc., to Encourage Courses in Music	7,500 00	7,320 60
Inspection of Schools, Auxiliary Classes, Grants, Services, Contingencies, etc.	73,000 00	72,759 80
Department Examinations:—		
Examiners	70,000 00	63,363 23
Contingencies	3,000 00	2,221 41
Extra Services, Professional and Supervising Boards	400 00	400 00
Text Books, Salaries	100 00	100 00
Training Schools, Per Diem Allowances and Travelling Expenses, Returned Soldiers	1,000 00	767 80
Normal and Model Schools—		
Toronto, Physical Culture Apparatus, etc	200 00	60 41
Scrubbing, Cleaning, etc.	500 00	354 03
London Normal, Apparatus, Chemicals, Domestic Science and Manual Training Supplies	400 00	247 66
Hamilton Normal, Apparatus, Chemicals, Domestic Science and Manual Training Supplies	200 00	99 25
Expenses of Grounds, Trees, etc.	200 00	29 74
Stratford Normal, Payment to the Stratford Board of Education	100 00	100 00
North Bay Normal, Students' Board and Travelling Expenses	7,500 00	6,677 84
University of Ottawa Normal, Salaries	500 00	500 00
Roman Catholic Separate School Board, Ottawa, for Use of Schools for Training Teachers	30 00	30 00
Students' Board and Travelling Expenses	25,000 00	14,401 77
English-French Training Schools—		
Sandwich, Salaries	100 00	100 00
Students' Board and Travelling Expenses	1,000 00	480 42
High Schools and Collegiate Institutes, Travelling and Moving Expenses	1,500 00	844 24
Public Libraries, Library Institutes	700 00	555 62
Technical Education, Grants and Contingencies, Manual Training and Household Science Department	10,000 00	9,286 87
Ontario Training College for Technical Teachers, Critic Teachers and Other Additional Teachers	300 00	256 00

Lands and Forests Department

	Warrant	Expended
Forestry Branch, Salaries	925 00	925 00
Fire Ranging	401,475 00	34,307 67

Mines Department

	Warrant	Expended
Temiskaming Testing Laboratories	10,000 00	2,109 90
Salaries, etc., Temporary Field and Other Assistants	9,000 00	3,443 61

Game and Fisheries Department

	Warrant	Expended
Sundry Inquiries and Investigations	5,000 00	977 27

Public Works Department

	Warrant	Expended
Maintenance and Repairs, Government Buildings—		
Government House, Telephone Service	250 00	248 67
Parliament and Departmental Buildings:—		
Electric Power and Light Current and Gas	9,500 00	7,897 51
Painting Outside and Inside Work	3,000 00	1,775 45
Telephone Service	4,300 00	4,269 57
Normal and Model Schools—		
Toronto, Repairs and Incidentals	4,000 00	3,996 43
Ottawa, Repairs and Incidentals	2,000 00	879 78
Hamilton, Repairs and Incidentals	350 00	52 10
Peterborough, Repairs and Incidentals	300 00	29 03

TREASURY BOARD MINUTES—Continued

Public Works Department—Continued

	Warrant	Expended
Maintenance and Repairs, Government Buildings—*Continued*		
Belleville School for the Deaf, Repairs and Incidentals	16,000 00	14,327 88
Brantford School for the Blind, Repairs and Incidentals	5,000 00	3,417 01
Embrun Training School, Repairs and Incidentals	4,000 00	3,190 00
Ontario Agricultural College, Repairs and Incidentals	1,000 00	583 04
Ontario Veterinary College, Repairs and Incidentals	700 00	471 22
Horticultural Experimental Station, Vineland, Repairs and Incidentals	1,000 00	64 79
Agricultural School, Ridgetown, Repairs and Incidentals	500 00	175 11
Kemptville Agricultural School, Repairs and Incidentals	1,000 00	160 79
Districts—		
Algoma, Repairs and Alterations, etc.	200 00	197 78
Furniture and Furnishings	500 00	207 06
Cochrane, Repairs and Alterations, etc.	2,300 00	2,001 00
Muskoka, Furniture and Furnishings	250 00	145 00
Parry Sound, Furniture and Furnishings	200 00	33 13
Sudbury, Repairs and Alterations, etc.	906 71	740 02
Furniture and Furnishings	585 00	201 73
Repairs, etc., Old Gaol, including Fuel, Light and Water	100 00	3 94
Temiskaming, Repairs and Alterations	900 00	754 61
Furniture and Furnishings	250 00	16 66
Thunder Bay, Repairs and Alterations, etc.	1,300 00	1,287 23
Furniture and Furnishings	1,147 83	808 82
Miscellaneous—		
Services, Travelling and Other Expenses	3,000 00	1,614 98
Motion Picture Studio, Trenton, Repairs and Incidentals	500 00	284 05
Government Buildings, Exhibition Park, Repairing Exhibits, etc.	5,000 00	4,755 84
Labour Employment Offices, Toronto, Repairs and Incidentals	970 00	943 41
Sewage Experimental Station, Toronto	900 00	786 25
110 University Avenue, Repairs and Incidentals, etc.	700 00	257 73
Public Works and Bridges—		
Storage Dams	14,000 00	12,566 36
Public Buildings—		
Parliament and Departmental Buildings, Additional Accommodation	200,000 00	183,408 01
Ontario Hospitals—		
Hamilton, Infirmary Building, Equipment, Furniture	500 00	374 80
Kingston, Purchase and Installation, Cold Storage Plant	11,000 00	4,591 46
Mimico, Nurses' Home	40,000 00	39,019 78
Laundry Building	16,000 00	12,419 61
Orillia, Nurses' Home, etc.	40,000 00	33,530 12
New Buildings	145,000 00	124,107 70
Water Tank and Watermains	1,000 00	933 19
Penetanguishene, Building for Criminally Insane Prisoners	60,000 00	35,493 23
Whitby, Store House Building	26,500 00	22,772 00
Woodstock, New Buildings to Accommodate 400 Patients, etc.	230,000 00	221,404 54
Boys' Training School, Bowmanville, Construction of Works and Buildings	5,000 00	3,752 77
Ontario Agricultural College—		
Administrative and Students' Residence Building and Power House	275,000 00	208,003 16
Horticultural Building, including Furniture, Furnishings and Equipment	18,500 00	13,970 65
Greenhouses in Connection with Horticultural Building	70,000 00	69,684 06
Railway Siding	13,000 00	12,855 50
Graesser House, Remodelled and Enlarged	41,000 00	33,534 88
Cold Storage Plant, Brighton, Structural Alterations to Buildings	3,500 00	2,958 01
Horticultural Experimental Station, Vineland—		
Staff Cottage	500 00	465 05
Double Cottage for Labourers	800 00	459 51
To Provide Garage Accommodation	2,000 00	1,774 80

TREASURY BOARD MINUTES—Continued

Public Works Department—Continued

	Warrant	Expended
Public Buildings—*Continued*		
Kemptville Agricultural School—		
Additional Storey to Mechanics' Building	1,000 00	898 50
Water Supply, Well, Pump, Pumphouse, etc	2,700 00	1,098 20
Greenhouse	2,400 00	1,611 50
Demonstration Farm, New Liskeard, New Farm Buildings	2,500 00	1,647 27
Western Ontario Experimental Farm, Ridgetown, Double Brick Garage and Kitchen Alterations	300 00	287 86
Ontario Government Building, Strand, London, England, Building Operations, Furniture, Furnishings, etc	21,257 12	21,202 73
Districts—		
Kenora, New Gaol, Kenora	10,000 00	9,533 97
Alterations and Improvements to Gaoler's House	2,200 00	1,242 97
Nipissing, New Gaol, North Bay	14,500 00	13,297 10
Wall Around District Gaol	2,000 00	987 09
Rainy River, Alterations on Old Registry Office, etc	1,000 00	614 42
Sudbury, New Gaol, Sudbury, Furniture and Furnishings	20,500 00	19,391 27

Highways Department

Main Office, Contingencies	25,000 00	23,706 40
Highway Exhibits	5,000 00	4,897 51
Motor Vehicles Branch, Automobile Markers and Supplies	40,000 00	36,372 72
Safety Committee, to Pay Cost of Advertising, etc	15,000 00	14,994 90

Health Department

Preventable Diseases, Contingencies	2,000 00	563 60
Main Laboratory, Services and Expenses	10,000 00	3,217 19
Public Health Education, Advertising	500 00	78 50
Hospitals Branch, Main Office—		
Public Institutions, Contingencies	12,000 00	7,545 92
Board of Examiners, Training School for Nurses	250 00	66 75
Removal of Patients	1,500 00	1,342 64
Removal Expenses, Other than Patients	1,000 00	186 02
Printing and Stationery for Public Institutions	5,250 00	5,237 46
Grants to Recovered Indigent Patients, etc	300 00	297 10
Reimbursing the Village of Portsmouth, Proportionate Payment, re Repairing, etc., King Street	195 00	195 00
General Hospitals and Charities—		
Contingencies	2,250 00	1,116 51
General Hospitals	56,050 90	56,050 90
Homes for Incurables	5,686 00	5,186 00
Maintenance of Patients in Municipal Sanatoria for Consumptives	45,280 00	45,266 50
Mental Hospitals—		
Brockville—		
Assistant Medical Officer	612 50	18 43
Carpenter and Assistants	175 00	25 00
Chief Attendants, Attendants and Nurses	6,881 25	2,055 86
Cobourg—		
Stenographers	200 00	75 00
Engineering Staff, etc	712 50	212 50
Gardeners	137 50	37 50
Chief Attendants, Attendants and Nurses	3,350 00	1,389 81
Hamilton—		
Carpenters	625 00	225 00
Gardeners	900 00	818 75
Chief Attendants, Attendants and Nurses	3,493 75	1,696 00
Kingston—		
Clerk and Stenographers	968 75	668 92
Farm Hands	500 00	418 75
Chief Attendants, Attendants and Nurses	3,429 16	1,942 39
Repairs to Buildings, etc	1,500 00	1,076 71
London—		
Clerks	500 00	200 00
Stenographers and Portress	893 75	715 21
Chief Attendants, Attendants and Nurses	3,775 00	3,117 99

TREASURY BOARD MINUTES—Continued

Health Department—Continued

	Warrant	Expended
Mental Hospitals—*Continued*		
Mimico—		
Assistant Medical Officers	6,150 00	4,504 13
Engineering Staff, etc.	750 00	78 50
Carpenters and Helpers	975 00	625 00
Farm Hands	275 00	75 00
Chief Attendants, Attendants and Nurses	3,300 00	2,208 67
Expenses	8,000 00	6,314 29
Orillia—		
Assistant Medical Officers	1,650 00	998 25
Storekeeper and Assistant	1,150 00	962 50
Stenographers and Clerks	612 50	150 00
Engineering Staff, etc.	756 25	282 12
Farm Hands	650 00	231 25
Chief Attendants, Attendants and Nurses	7,275 00	3,379 84
Teachers and Industrial Instructors	1,275 00	488 75
Penetanguishene—		
Assistant Medical Officers	400 00	223 00
Stenogaphers and Clerks	75 00	23 65
Engineering Staff, etc.	300 00	27 50
Chief Attendants, Attendants and Nurses	2,806 25	1,414 55
Repairs to Buildings, etc.	2,500 00	2,382 15
Toronto—		
Assistant Medical Officers	2,300 00	1,745 40
Chief Attendants, Porters, Nurses, etc.	4,093 75	2,742 38
Whiby—		
Assistant Medical Officers	3,712 50	3,532 83
Clerks	275 00	194 72
Stenographers	800 00	495 62
Woodstock—		
Engineering Staff, etc.	2,000 00	1,588 76
Farm Hands and Messenger	75 00	37 50
Expenses	2,000 00	1,236 61
Toronto Psychiatric—		
Attendants and Nurses	3,862 50	3,215 64

Labour Department

	Warrant	Expended
Minimum Wage Board, Salaries	100 00	100 00

Public Welfare Department

	Warrant	Expended
Children's Aid Branch, Administration of Act, Services and Expenses	10,400 00	10,269 23
Grants, Orphanages	3,600 00	3,032 70
Boys' Training School, Bowmanville—		
Gratuities to Boys	2,000 00	1,416 06
Repairs to Buildings, etc.	4,000 00	3,797 17
Old Age Pensions Commission, Contingencies	5,000 00	4,951 28

Treasury Department

	Warrant	Expended
Succession Duties Branch, Salaries	310 00	10 00
Department of Public Records and Archives, Contingencies	625 00	542 43
House Post Office, Salaries	331 25	312 50

Provincial Auditor's Office

	Warrant	Expended
Contingencies	2,000 00	1,567 11

TREASURY BOARD MINUTES—Continued

Provincial Secretary's Department

	Warrant	Expended
Public Institutions, Main Office—		
Contingencies	2,500 00	1,037 41
Travelling and Other Expenses of Bailiff and Prisoners	6,000 00	3,957 77
Railway Fares and Clothing of Discharged Prisoners	6,000 00	5,072 60
Treatment of Patients in Hospitals and Sanatoria	300 00	66 50
Legal Costs and Expenses	500 00	121 00
Ontario Reformatory, Guelph, Guards, etc.	4,500 00	4,483 52
Brick and Tile Plant, Salaries	7,000 00	6,751 11
Mercer Reformatory—		
Attendants, etc.	2,356 25	802 93
Temporary Assistants	1,000 00	713 91
Burwash Industrial Farm, Repairs to Buildings	4,500 00	2,149 53
Fort William Industrial Farm, Guards	5,500 00	4,380 00

Agriculture Department

Agricultural and Horticultural Societies Branch—		
Vegetable Specialist, Salary	100 00	100 00
Dairy Branch, Salaries	56 25	56 25
Fruit Branch—		
Fruit Work, Growing, Handling, etc.	50 00	42 06
Horticultural Experimental Station, Vineland, Salaries	550 00	225 00
Services, etc., re Marketing Ontario Fruit and Vegetables	2,295 75	2,295 75
Agricultural Representatives Branch—		
Salaries	225 00	18 75
Agricultural Representatives' Work	2,531 25	1,960 23
Short Courses for Winners in Competitions	500 00	355 07
Crops, Co-operation and Markets Branch, to Promote Marketing Board	7,000 00	6,050 85
Colonization and Immigration Branch, Headquarters for Receiving Boy and Girl Settlers	15,000 00	9,069 03
Ontario Veterinary College—		
Salaries	200 00	200 00
Faculty and Staff	2,200 00	1,725 00
Ontario Agricultural College—		
Animal Husbandry, etc., Wages, Temporary Help	1,000 00	472 65
Field Experiments, Wages, Temporary Help	2,400 00	2,093 00

General Miscellaneous

Compensation to Injured Workmen	35,000 00	29,029 74
Total, Treasury Board Minutes	$4,298,620 55	$3,413,562 81

REPORT FOR 1931

OF

The Workmen's Compensation Board

ONTARIO

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO
SESSIONAL PAPER No. 28, 1932

ONTARIO

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1932

Toronto, March 21st, 1932.

To the Right Honourable Sir William Mulock, K.C.M.G.,
Administrator of the Government of the Province of Ontario.

May It Please Your Honour:

The undersigned has the honour to transmit to Your Honour the Report of The Workmen's Compensation Board for the year 1931.

Respectfully submitted,

William H. Price,
Attorney-General.

THE WORKMEN'S COMPENSATION BOARD

V. A. SINCLAIR, K.C., Chairman
H. J. HALFORD, Vice-Chairman
GEO. A. KINGSTON, Commissioner
N. B. WORMITH, Secretary

CONTENTS

GENERAL REVIEW .... Page 5

CHAPTER I—SCHEDULE 1 INDUSTRIES FOR 1931

Review .... “ 11
Provisional Financial Statement for Schedule 1, by Classes, as at December 31, 1931 .... Table 1 “ 14
Number fo Firms in Schedule 1, by Classes and Groups, December 31, 1931. “ 2 “ 15
Estimate of Wage Expenditure, Schedule 1, by Classes, for 1931 .... “ 3 “ 15

CHAPTER II—SCHEDULE 2 INDUSTRIES DURING 1931

Review .... “ 16
Statement for Schedule 2 during 1931 .... Table 4 “ 16

CHAPTER III—WORK HANDLED DURING 1931

Review .... “ 18
Compensation, Medical Aid, and Accidents Paid for, during 1931 .... Table 5 “ 21
Statement of Receipts and Payments during 1931 .... “ 6 “ 22
Payments to Safety or Accident Prevention Associations, 1931, and Payments for Mine Rescue Work (Class 5), 1931 .... “ 7 “ 24
Analysis of Administration Expenses during 1931 .... “ 8 “ 24

CHAPTER IV—CONDITION OF FUNDS

Review .... “ 25
Standing Schedule 1 Accident Fund as at December 31, 1931, and Standing Schedule 2 Funds as at December 31, 1931 .... Table 9 “ 28
Pension Fund, Schedule 1, by Classes, December 31, 1931 .... Table 10 “ 29
Disaster Reserve, December 31, 1931 .... “ 11 “ 29
Compensation Deferred, December 31, 1931 .... “ 12 “ 30
Silicosis Account, December 31, 1931 .... “ 13 “ 30
Investments, December 31, 1931 .... “ 14 “ 30

CHAPTER V—1930 OPERATIONS

Review .... “ 41
Final Financial Statement for 1930, Schedule 1, by Classes and by Groups. . Table 15 “ 45
Number of Accidents in 1930 Involving Payment .... “ 16 “ 49
Month of Occurrence of Accidents, 1930 .... “ 17 “ 49
Locality of Accidents, 1930 .... “ 18 “ 50
Time Loss, Average Age, and Average Wage, 1930 .... “ 19 “ 51
Total and Average Compensation and Medical Aid Costs, 1930, Schedule 1, by Classes .... “ 20 “ 52
Allegiance of Injured Workers, 1930 .... “ 21 “ 54
Sex and Marital Condition of Injured Workers, 1930 .... “ 22 “ 55
Week of Termination of Temporary Disabilities, 1930 .... “ 23 “ 55
Nature of Injuries, 1930 .... “ 24 “ 56
Causes of Accidents, 1930 .... “ 25 “ 58
Blood-Poisoning Cases, 1930 .... “ 26 “ 61
Death Cases, 1930 .... “ 27 “ 62

APPENDIX

Summaries of Operations from Commencement of Act to End of 1931 .... “ 63

AUDITOR'S CERTIFICATE .... “ 66

INDEX .... “ 69

REPORT FOR 1931

OF

THE WORKMEN'S COMPENSATION BOARD

ONTARIO

To His Honour The Lieutenant-Governor:

The Workmen's Compensation Board begs leave to submit its Report for the year 1931, being the seventeenth year of the operation of the Act.

GENERAL REVIEW

Premises

The Board's offices continue as heretofore on the 11th and 12th Floors of the Metropolitan Building, corner of Adelaide and Victoria Streets, Toronto.

Accidents

The year 1931 continues to show a decrease in the number of accidents reported to the Board, which no doubt indicates continued decrease in employment in industry in the Province. The accidents reported in 1930 numbered 69,267, and in 1931, 52,894, a decrease of nearly 24 per cent. All months in the year showed a decrease from the year 1930. The highest number of accidents reported in any month during the year was 4,945, during the month of July.

The provisional pay rolls reported to the Board also showed a substantial decrease, being $485,262,000 for 1930 and $409,260,000 for 1931, which confirms the decreased employment in industry during the year. The number of employers decreased from 23,912 in 1930 to 23,138 in 1931.

The allowed claims in 1930 numbered 61,795, and in 1931, 48,882. Out of the 43,611 accidents paid for during the year in Schedule 1, 22,802 involved medical aid only. The death claims in the year showed a very substantial decrease, from 427 in 1930 to 266 in 1931.

Benefits

The total amount of benefits awarded under the Act during the year 1931 was $6,021,392.10, as compared with $7,423,018.82 in 1930. Out of the benefits so awarded in 1931, compensation amounting to $3,917,045.43 and medical aid amounting to $1,060,763.01 was awarded in Schedule 1, $527,758.32 in Schedule 2 industries, and $515,825.34 in Crown cases. The total benefits awarded from the commencement of the Act to the end of 1931 amounted to $91,924,617.85, and the total accidents reported during the same period were 928,571.

Average Rates of Assessment

Based on the estimated wage expenditure, the average rate of assessment in all classes in Schedule 1 would amount to $1.22, as compared with an estimated rate of $1.40 in 1930, and an average of $1.18 since the commencement of the Act.

Administration Expenses

The administration expenses for the year showed a slight increase, the amount for 1931 being $350,491.05, as compared with $346,999.73 in 1930, or an increase of $3,491.32. This increase was not due to increase in salaries, as payment for the salaries of the regular staff was decreased, the extra amount being due to payment for special statistical service, which amount was refunded to the Board. The Board has not made any increase in salaries for two years, and, while they have tried to continue the staff in employment, in most cases vacancies occurring have not been filled, and there has thus been a reduction in the regular staff.

The additional expenses are more than accounted for by the travelling expenses of auditors who were all engaged outside of the city during the year, by increased rentals due to requirement of increased accommodation for filing and vault space, increase in auditors' salary, and the cost of investigation of certain fraudulent claims, and additional x-ray equipment. Savings were made by the Board in a number of items, especially in connection with printing expenses, so that, including the special investigations and new equipment, the total additional administration expenses were as given above.

While from the decrease in number of accidents some decrease in the work of the Board occurred, this was to a great extent offset by continued increase in applications for review and re-establishment of claims due to unemployment. Infants out of work have made numerous applications for payment of moneys before attaining 21 years of age. These claims are carefully inquired into as to whether it is in the infant's interests, owing to his necessities or for his advancement, to make payments to him. Many applications for commutations of pensions are made, or for advances on account of pensions, especially during the winter months, and the Board has felt that under conditions many of these applications should be granted so as to assist the pensioners in this period of unemployment.

The Board has during the year made a thorough investigation of the ages of the different pensioners so that the Pension Fund could be adjusted in accordance with more accurate proof of age. This has involved considerable work and has resulted in changes in the amounts required in the Pension Reserve Fund.

Our Chief Medical Officer has continued the practice of making periodical investigations of permanent disability or long-continuing claims at various centres, including Windsor, London, Ottawa, Kingston, Sudbury, Port Arthur, and Fort William, and the results amply justify the expenditure and time spent.

The Board has continued the establishment of mine rescue stations by construction, in conjunction with the Department of Mines, of a rescue station at Kirkland Lake, which has just been completed.

While no doubt individual cases of fraud have occurred in connection with claims made, the Board for the first time has had to deal with a conspiracy to defraud the Board, in which a considerable number of people were engaged. The Board received some information from one of the local newspapers that communication had been received stating that one of the employers under the Act was keeping two sets of books. Investigation was immediately made by the Board into the operations of this particular employer and the claims which had been made in connection with his workmen, which resulted in attention being drawn to the same workmen being engaged with other employers, and it was discovered that there were seven employers reporting to the Board who appeared to be implicated in claims made by fictitious persons as shown by the signatures on the claim papers.

The matter was then taken up by the Board with the Attorney-General, and after full disclosure of the facts which the Board had discovered an investigation was commenced under an Inspector of the Provincial Police, who was placed by the Attorney-General's Department in charge of the investigation, and through his clever and painstaking efforts the whole outfit were brought to justice after several months' work, which involved the employment of expert auditors' services, investigations of about 25 bank accounts, and the arrest of 12 people engaged. So thoroughly was the work done that when the cases came for trial all the defendants pleaded guilty, and the following sentences were imposed:

Geo. J. Couture	5 years—Kingston Penitentiary.
Alfred Thivierge	2½ years—Kingston Penitentiary.
Jos. Vezina	2 years—Kingston Penitentiary.
Anatole Groulx	18 months and 1 year indeterminate sentence.
Edward Vezina	1 year and 1 year indeterminate sentence.
Leo Couture	1 year and 1 year indeterminate sentence.
Rose Vezina	Remanded for sentence and placed on probation for 1 year.
Aurore Thivierge	
Albertine Couture	
Blanche Groulx	
Albert Vezina	Remanded for sentence and placed on probation for 2 years.
Yvonne King	

The Board felt that with the number of claims involved an investigation should also be made in connection with the doctors attending these cases, and as a result of the investigations 10 out of the 11 doctors whose cases were investigated were suspended from further practice with the Board.

While this resulted in considerable expense to the Board, it was felt that the results achieved would deter any further attempts at conspiracy to defraud. These cases, extending over a period of several years, were carried on by the alleged employer reporting under various names and the alleged workmen appearing under several different names. In many cases where possibly there was a real injury it was reported under different employers' names, attended by different doctors, and the workman posed under several different names.

All the administration expenses are now paid by the employers under the Act, without any governmental assistance, and the amount is distributed among Schedule 1, Schedule 2, and Dominion and Provincial Crown cases, in accordance with the work done in each of these classes. The amount charged to the Silicosis Fund was $41,781.56; to Mine Rescue Work, $3,193.34; to Schedule 1 employers, $249,238.86; to Schedule 2, $28,066.83; to Dominion Crown, $16,280.79; and to Provincial Crown, $11,929.67. The total administration expenses for 1931, less expenses of supervising work in connection with silicosis and mine rescue stations (not properly administrative work) and handling claims for silicosis, were 5.07 per cent. of all benefits awarded, being 5.01 per cent. of benefits awarded in Schedule 1 and 5.39 per cent. in Schedule 2 and Crown cases.

Amendments

There were two amendments passed during the session of 1931, Chapter 37, by which the provision relating to miners' phthisis was struck out of the Act in view of the fact that this is covered by the provisions with reference to silicosis, and Chapter 38, called The Blind Workmen's Compensation Act, passed for the purpose of inducing or removing the objections to the employment of blind workmen in industry under proper restrictions, and this provides that where the full cost of compensation exceeds $50 the Provincial Treasurer of Ontario shall pay the cost of such accident, so that while in all cases where the compensation does not amount to more than $50 it is dealt with as heretofore, where it exceeds this amount the cost is to be paid by the Government reimbursing the Accident Fund.

The Government Employees' Compensation Act for the Dominion of Canada was also amended by Act assented to on June 11, 1931, by which the benefits of The Workmen's Compensation Act were extended to all employees in the service of His Majesty for the Federal Government regardless of the department or branch for which the employee was working or the nature of such work. Only the permanent employees of the military, naval, or air forces, for whom provisions are elsewhere made, are excluded. This very largely increases the covering given to the Federal Government employees.

By Commission dated the 22nd of January, 1931, the Honourable Mr. Justice Middleton was appointed a Commissioner under The Public Inquiries Act to inquire into the advisability of making amendments to The Workmen's Compensation Act, and in pursuance of such Commission, after due notice, the Commissioner held several public sessions at which he heard representations made on behalf of the employers, the workmen, the doctors, and various other organizations interested in amendments to the Act. The Chairman and Secretary attended the sittings of the Commission and gave such information as was required from time to time during the sessions of the Commission. It is understood that the report of the Commissioner will be made in time for the 1932 session of the Ontario Legislature to deal with any amendments which he may deem advisable to suggest.

Safety Associations and Mine Rescue Stations

Further increase has been made in connection with grants to safety associations, the total during the year being $164,499.03, as compared with $146,929.22 in the year 1930. Part of this increase is due to the first budget being received from the Class 5 Accident Prevention Association in the mining class, which has started safety work in connection with mining operations. There was also an increase of $9,399.81 in connection with the Industrial Accident Prevention Associations, which was partly due to statistical work in connection with the individual accident experience of the different employers in the classes and the endeavour of the Associations through the cost ratio cards of the individual employers to bring home to those who have a bad accident experience the necessity for more intensive safety work in their individual plants. The amounts paid to each of the safety associations are as follows: Lumbermen's Safety Association, $26,900; Ontario Pulp and Paper Makers' Safety Association, $12,100; Class 5 Accident Prevention Association, $6,500; Industrial Accident Prevention Associations, $110,399.03; and Electrical Employers' Association of Ontario, $8,600. Continued interest is being shown by the employers in this work, but further increases in cost of such work should be carefully restricted to what is absolutely necessary in connection with the work, and the same care and economy in expenditure should be regarded in these associations as in other public bodies at this time when employment is much less and many plants are closed and when decreased expenditures rather than increased expenditures are indicated.

The Board has, in furtherance of the provisions of The Mining Act and the First Aid provisions of The Workmen's Compensation Act, provided a third mine rescue station at Kirkland Lake, which completes for the present the erection of such stations, those now in operation being at Sudbury, Timmins, and the present one at Kirkland Lake, which has just been completed at a cost of $9,925. There was spent during the past year in connection with these rescue stations, for the erection and maintenance, the sum of $22,087.03.

First Aid

The attention of all employers is drawn to the fact that the Act requires every employer to have a suitable first aid kit provided, adequate for the particular industry carried on.

Rehabilitation

The Board has continued its rehabilitation work, spending the sum of $3,965.57, slightly less than the preceding year, but this is accounted for by the decrease in the number of disabled workmen.

The Board has under consideration the establishment of a physiotherapy department in connection with the Board for the purpose of decreasing the time during which the workman is disabled and lessening the severity of the permanent disability of the workman by furnishing him with suitable physiotherapy treatment early in the course of his disablement while such treatment will be more effective.

The Board desires to thank the employers for their continued interest in the rehabilitation of their injured workmen and to again request their hearty co-operation with the Board in cases of workmen accustomed only to hard labour, where no other form of rehabilitation is possible.

Merit Rating

The same principle has been applied in connection with merit rating, and refunds to the amount of $92,333.55 have been made, as compared with $123,661.83 in 1930.

Funds

No further assessment has been required during the year for the Disaster Reserve Fund, which at the end of the year stands at $257,303.05, as compared with $269,498.16 at the end of 1930. During the year the only charges made against this fund were for the purpose of relief of the classes affected by injuries to previously injured workmen, the intention being to remove the objection of employers to re-employment of their injured and disabled workmen by putting them in the same position as they would have been had the workmen been uninjured, and charging against the Disaster Reserve Fund the additional cost of carrying such hazard. It is felt by the Board that everything should be done to encourage the re-employment of workmen who have been injured in connection with industry. The amount so charged during the year in respect of pensions charged to the various classes was $24,966.33.

The amount now standing to the credit of the Pension Reserve Funds in the different schedules is as follows: Schedule 1, $19,160,312.72, Schedule 2, $3,413,358.42, which represents the actuarial liability outstanding in connection with the pensions which have been actually granted by the Board, and assures to all pensioners the ultimate payment of their claims in full.

The Board is pleased to report that during the year by careful consideration of their bond purchases and the market tendencies they have been able to increase the average rate of interest earned on Schedule 1 investments from 5.10 per cent. in 1930 to 5.22 per cent. in 1931, and on Schedule 2 funds from 5.60 per cent. in 1930 to 5.81 per cent. in 1931.

The Accident Fund has been maintained at an amount sufficient to set aside the amounts required for the Pension Fund and to meet all payments by way of medical aid and temporary disability payments awarded by the Board or due to workmen, and also to provide sufficient funds to meet the estimated costs of all accidents which have happened and in respect of which permanent disability awards have not yet been made or in which temporary disability awards may be continuing. The Board shows on hand as a provisional balance at the end of 1931, $1,690,273.77 in connection with the Accident Fund from the commencement of the Act, which is deemed sufficient to cover any outstanding and unsettled claims and to provide a reasonable margin of safety. The Board does not desire to have any greater surplus in connection with the Accident Fund than is actually necessary to meet current needs and the estimated liabilities in connection with current claims.

Audit

A continuous audit of all the accounts of the Board has been carried on by Messrs. Fred Page Higgins & Company, the auditors appointed by the Lieutenant-Governor in Council under the provisions of Section 74 of the Act, and their certificate is appended at the end of this report.

Contents of Report

In the different chapters and tables, as indicated in their headings, will be found information and particulars regarding compensation and assessments in the various industries, and explanations and particulars of the different funds of the Board; also an analysis and tabulation of the causes of accidents, the nature of injuries, and other information concerning accidents and workmen. The appendix contains a short summary of the operations from the commencement of the Act to the end of 1931.

CHAPTER I

SCHEDULE 1 INDUSTRIES FOR 1931

As some of the industries covered by the Act are under the collective liability system (the employer not being individually liable for accidents to his workmen but being assessed to provide a general fund out of which accidents occurring in his class of industry throughout the Province are taken care of) and others are under the individual liability system (the employer being liable to pay for accidents happening to his own workmen), separate financial statements have to be made for each. The industries under the collective liability system are included in Schedule 1, and those under individual liability in Schedule 2, the former comprising much the greater number.

This chapter deals with Schedule 1 industries for 1931. Schedule 2 industries are dealt with in Chapter II, while Chapter III deals with the work handled in both schedules and the administration of the Act generally during the year, Chapter IV with the different funds in both schedules and their standing at the end of 1931, and Chapter V gives financial and statistical information for 1930, which was not available when the report for that year was made.

Provisional Financial Statement

The provisional financial statement for the industries in Schedule 1 for 1931 is contained in Table 1. To show the standing for the year, estimates have to be made of adjustments of assessments according to actual pay rolls and on the retroactive rates (the assessments for the year being first levied on an estimate of pay roll and at a provisional rate), and estimates also have to be made of compensation and medical aid still to be awarded for accidents happening during the year which have not yet been finally disposed of by reason of the injured workman being still under medical treatment or reports not being received. These estimates contain also all liabilities for claims of previous years yet outstanding and provision for claims of prior years which may subsequently be adjusted. Final figures for the year 1931 will be shown in the next subsequent report in the same manner as the final figures for 1930 are shown in Table 15 of this report.

The difference is to be noted between the amount of compensation and medical aid awarded for the year's accidents and the amount awarded during the year. The latter is partly for the prior year's accidents, while upon the other hand it does not cover all the liability for the current year's accidents. The more correct system of charging each year as far as possible with its own accidents, and for that purpose keeping the year's accounts open till the end of the subsequent year, has been adopted, rather than the looser method of taking the amount awarded during the year as the cost of the year's accidents and leaving always an outstanding liability unprovided for. For the purpose of information and comparison, however, the amounts awarded during the year are shown in Chapter III.

Accounts for Each Class

The industries in Schedule 1 are divided into classes, and as each class (subject to any transfer that may be made to it from the Disaster Reserve in any case of undue burden) bears its own accident cost—the employers in the class being in effect a mutual insurance association—separate accounts have to be kept for the different classes. Each class is credited with its own assessments, its share of interest and other income, and with any transfer made to it from Disaster Reserve, or credit from any other source, and is charged with the cost of its own accidents, its share of administration expenses, the cost of its safety association if it has one, and with its share of any amount set aside for Disaster Reserve.

The figures for each class, and the provisional surplus or deficit for the year, and the balance forward from prior years, and the provisional surplus or deficit for all years, are shown in Table 1. The final figures for each class and also the figures for the different groups within the classes (as in Table 15) will be shown in the next report. The assessments are fixed according to the accident cost and other expenses and charges in each class and group and having regard to the other income and credits.

The classes are numbered and the nature of the industries in each is shown at the bottom of Table 1 and full enumeration of the industries will be found in Schedule 1 of the Act and in the Board's rate book, the latter also showing the grouping within the class.

Assessments and Other Credits

The total assessments in all the classes of Schedule 1 for the year 1931, including estimated adjustments, amounted to $5,010,617.50. In assessments are included collections for default in making returns or payments and interest for under and over estimate of pay roll. The other income and credits for the year consisted of interest received other than credited to the Pension Fund, Silicosis Fund, and Compensation Deferred, as shown in Chapter IV; reimbursement for veteran cases, received from the Department of Pensions and National Health; cost of accidents collected under Section 105 for failure to furnish pay roll prior to accident; recovery from third parties under Section 8; and collections under Section 112 (3) from employers for failure to furnish particulars of accidents. Other income and credits amounted to $329,669.34, making a total of $5,340,286.84, of which $92,333.55 is to be refunded for merit rating. The net income and credits for the year are, therefore, $5,247,953.29.

Compensation and Other Charges

The compensation for Schedule 1 industries for the year including estimate for what is still to be awarded for accidents happening during the year and for adjustment of prior years' accidents, amounted to $3,920,989.74; the medical aid, including estimate for what is outstanding, amounted to $1,045,828.37; the administration expenses for Schedule 1, including $22,087.03 for mine rescue work, amounted to $271,325.89; and $164,499.03 was paid to employers' safety association. The total expenditures and charges for the year were $5,402,643.03.

The provisional deficit for the year was $154,689.74. The balance forward from prior years was a surplus of $1,844,963.51, which, added to the deficit for the year, makes a net provisional surplus of $1,690,273.77 at December 31, 1931.

Number of Employers

Total number of employers listed in Schedule 1 at the end of 1931 was 23,138, as compared with 23,912 at the end of 1930. The number in each class and group of industry is shown in Table 2.

Wage Expenditure

The estimated total wage expenditure in Schedule 1 industries for the year 1931, calculated on provisional figures, is $409,260,000, as compared with $485,262,000 in 1930. The amounts for the different classes of industry are shown in Table 3.

The Board has no similar data for Schedule 2 and Crown industries as in these the employers pay for the accidents to their own workmen and are not required to make pay roll returns or pay assessments upon them as in Schedule 1. The pay roll would probably be about one-third that of Schedule 1.

Average Rates of Assessment

Assessments in Schedule 1 are in the form of a percentage of pay roll and the average rate or percentage over all the classes actually paid by the employers can be ascertained by relating the total assessments to the total wage expenditure. This, on the provisional figures, gives an average rate of assessment for 1931 of $1.22 on every $100 of pay roll. The average over all years since the commencement of the Act was $1.18.

Class	C I A
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10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
ALL	5,

TALS
1,153
95
312
635
332
719
14
205
290
1,083
988
680
693
144
1,431
301
315
954
966
2,412
690
451
537
7,738
3,138

e

TABLE 1

PROVISIONAL FINANCIAL STATEMENT FOR SCHEDULE 1, BY CLASSES, AS AT DECEMBER 31, 1931

Class	INCOME AND CREDITS (Actual and Estimated)					EXPENDITURE AND CHARGES (Actual and Estimated)									Adjusted Figures up to Dec. 31, 1930	Estimated Unadjusted Outstanding as at Dec. 31, 1931	PROVISIONAL BALANCE ON FIGURES IN TWO PRECEDING COLUMNS	Class
	Collected on Provisional Assessments	Estimated Adjustments of Assessments	Interest Secs. 8, 105, 112 (3), Etc.	Assessment Refunds on account of Merit Rating	TOTAL	Compensation Paid, other than Pensions	Transferred for Pensions Awarded	Compensation Awarded, Payment Deferred	Compensation Estimated Outstanding	Medical Aid Paid	Medical Aid Estimated Outstanding	Administration Expenses and Mine Rescue Work	Paid to Safety Associations	TOTAL				
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
1	301,979 90	93,009 33	4,698 51	13,151 78	386,535 96	100,766 04	61,739 20	835 00	124,025 33	44,853 72	26,987 68	16,586 73	26,900 00	402,693 70	—160,101 56	—16,157 74	—176,259 30	1
2	200,969 92	—40,743 60	14,933 20	9,322 59	165,836 93	37,009 46	3,077 00	250 00	40,389 03	18,619 60	4,322 85	9,384 80	12,100 00	125,152 74	86,417 00	40,684 19	127,101 19	2
3	92,426 09	—29,420 36	3,537 39	330 06	66,213 06	24,383 66	....	1,125 00	15,980 48	9,299 72	1,594 20	3,902 65	3,467 95	59,753 66	—9,909 85	6,459 40	—3,450 45	3
4	148,051 23	—18,916 61	8,309 68	1,570 80	135,873 50	40,425 50	6,916 67	1,745 00	27,043 92	15,935 98	4,342 24	5,483 85	4,873 05	106,766 21	36,406 12	29,107 29	65,513 41	4
5	594,022 52	2,791 78	58,502 09	4,408 95	650,907 44	149,791 73	143,736 92	3,050 00	201,181 05	51,536 86	72,228 08	**55,594 38	6,500 00	683,619 02	653,644 13	—32,711 58	620,932 55	5
6	183,183 99	8,855 24	19,016 36	4,143 36	206,912 23	32,477 66	20,284 00	....	160,747 64	14,514 38	40,186 61	8,079 95	7,180 00	283,470 24	164,546 65	—76,558 01	87,988 64	6
7	80,805 66	—29,578 48	11,891 60	1,211 94	61,906 84	16,218 02	14,414 00	....	15,005 89	9,418 48	2,410 20	1,818 45	1,615 90	60,900 94	131,820 32	1,005 90	132,826 22	7
8	117,449 23	—4,331 54	5,030 64	1,044 24	117,104 09	32,612 36	17,823 52	300 00	60,800 50	17,912 77	10,510 93	4,304 35	3,824 95	148,089 38	27,557 48	—30,985 29	—3,427 81	8
9	288,411 45	—79,432 67	23,659 02	11,320 06	221,317 74	42,848 90	8,518 00	1,925 00	43,273 15	26,893 04	10,354 09	10,987 65	9,763 80	154,563 63	144,026 90	66,754 11	210,781 01	9
10	263,254 68	—50,883 24	18,882 29	3,379 53	227,874 20	63,220 23	18,730 61	2,750 00	72,822 58	32,643 63	14,447 94	11,597 90	10,306 10	226,518 99	100,600 26	1,355 21	101,955 47	10
11	278,313 94	—96,108 70	13,937 19	3,419 02	192,723 41	56,516 74	10,867 00	100 00	58,760 53	27,078 56	15,819 85	13,014 20	11,564 60	193,721 48	29,888 27	—998 07	28,890 20	11
12	178,074 02	—16,633 49	10,164 14	3,015 55	168,589 12	45,267 43	28,345 10	....	41,466 70	20,756 66	10,329 66	10,297 40	9,150 45	165,613 40	67,563 99	2,975 72	70,539 71	12
13	81,109 82	24,039 63	2,464 74	873 48	106,740 71	17,681 02	50,169 00	....	26,433 40	6,943 24	16,627 61	2,710 45	....	120,564 72	17,090 46	—13,824 01	3,266 45	13
14	58,771 26	—12,844 02	2,331 75	973 20	47,285 79	10,724 41	8,303 00	....	11,509 48	8,195 93	2,877 37	2,735 43	2,430 75	46,776 37	3,253 47	509 42	3,762 89	14
15	258,772 54	—44,171 93	13,448 17	2,022 36	226,026 42	71,441 94	22,958 00	350 00	67,019 41	37,679 89	14,449 83	12,064 10	10,720 35	236,683 52	41,203 73	—10,657 10	30,546 63	15
16	92,883 74	....	10,577 50	482 40	102,978 84	23,459 71	32,905 10	885 00	21,272 96	12,367 90	9,216 62	1,740 35	1,546 50	103,394 14	47,434 81	—415 30	47,019 51	16
17	96,931 44	—16,624 02	8,342 18	1,010 10	87,639 50	26,434 36	14,682 87	420 00	20,214 65	14,549 95	5,040 47	4,383 75	3,895 45	89,621 50	85,436 89	—1,982 00	83,454 89	17
18	60,790 89	26,365 52	3,600 73	534 72	90,222 42	24,634 85	....	530 00	62,738 67	12,578 45	9,397 44	2,268 10	2,015 45	114,162 96	24,465 36	—23,940 54	524 82	18
19	106,918 32	—48,067 85	6,832 91	427 92	65,255 46	18,012 05	5,037 16	760 00	17,315 82	10,540 15	2,418 53	7,051 95	6,266 50	67,402 16	30,018 63	—2,146 70	27,871 93	19
20	228,311 09	—32,538 40	14,210 66	2,093 94	207,889 41	66,503 92	22,967 00	....	66,191 84	29,682 46	9,233 23	11,711 75	....	206,290 20	40,951 09	1,599 21	42,550 30	20
21	332,451 02	48,000 00	12,991 67	8,996 35	384,446 34	103,780 12	59,394 60	....	133,906 86	46,301 59	27,968 81	21,208 90	....	392,560 88	36,340 35	—8,114 54	28,225 81	21
22	87,669 74	23,562 97	1,173 63	3,417 86	108,988 48	17,221 45	47,164 00	....	21,542 04	7,737 13	13,744 74	3,625 65	8,600 00	119,635 01	4,001 50	—10,646 53	—6,645 03	22
23	252,908 98	—21,000 00	29,035 68	15,183 34	245,761 32	49,217 75	26,559 72	....	127,925 23	21,913 50	29,012 18	15,588 05	4,073 90	274,290 33	270,696 00	—28,529 01	242,166 99	23
24	700,082 72	240,743 75	32,097 61	....	972,924 08	239,336 47	37,484 08	1,145 00	495,190 25	108,528 25	85,825 37	35,185 10	17,703 33	1,020,397 85	—28,388 49	—47,473 77	—75,862 26	24
ALL	5,084,544 19	*—73,926 69	†329,669 34	92,333 55	5,247,953 29	‡1,309,985 78	662,076 55	16,170 00	1,932,757 41	606,481 84	439,346 53	271,325 89	164,499 03	5,402,643 03	1,844,963 51	—154,689 74	1,690,273 77	ALL

*Adjusted on actual pay rolls and retroactive rates.

†Includes Interest, $292,970.98; Sec. 8, $10,107.53; Sec. 105, $6,739.84; Sec. 112 (3), $342.54; reimbursement from D. P. & N. H., $19,508.45.

‡Includes Rehabilitation, $113.50.

**Includes Mine Rescue Work, $22,087.03.

Class Numbers of Industries

1. Lumbering.
2. Pulp and paper mills.
3. Furniture manufacturing, etc.
4. Planing mills, etc.
5. Mining and explosives.
6. Brick manufacturing, quarrying and glass works.
7. Rolling mills, etc.
8. Foundries, etc.
9. Fabrication structural steel, etc.
10. Metal articles, jewellery manufacturing, etc.
11. Agricultural implements, etc.
12. Gas, petroleum, paint, drugs, soap, etc.
13. Milling.
14. Abattoirs, etc.
15. Bakeries, canning, liquors, and tobacco.
16. Tanneries, leather and rubber goods.
17. Textiles.
18. Clothing, power laundries, etc.
19. Printing and stationery.
20. Teaming, cartage, coal and wood yards, etc.
21. Road construction, etc.
22. Electric power, etc.
23. Steel construction, railway and canal construction, dredging, fishing, etc.
24. Building.

TABLE 2

NUMBER OF FIRMS IN SCHEDULE 1, BY CLASSES AND GROUPS, DECEMBER 31, 1931

Class	Group 0	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9	TOTALS
1	86	90	977								1,153
2	42	32	21								95
3	133	38	22	119							312
4	366	41	76	24	128						635
5	27	112	7	152	0	7	17	10			332
6	86	124	8	172	67	127	135				719
7	6	8									14
8	97	8	61	39							205
9	18	13	1	13	223	22					290
10	322	299	31	51	56	27	177	120			1,083
11	46	881	59	2							988
12	65	245	118	15	237						680
13	566	127									693
14	144										144
15	347	312	88	303	72	273	36				1,431
16	53	104	73	34	37						301
17	129	138	48								315
18	737	217									954
19	310	553	48	55							966
20	1,372	1,040									2,412
21	476	214									690
22	451										451
23	92	61	384								537
24	880	410	1,109	443	1,197	1,113	367	162	1,743	314	7,738
All											23,138

TABLE 3

ESTIMATE OF WAGE EXPENDITURE, SCHEDULE 1, BY CLASSES, FOR 1931

Class	Wage Expenditure
1	$8,775,000
2	11,587,000
3	9,787,000
4	10,165,000
5	24,400,000
6	9,021,000
7	7,727,000
8	7,905,000
9	18,792,000
10	34,112,000
11	27,895,000
12	22,599,000
13	5,993,000
14	6,464,000
15	36,459,000
16	17,714,000
17	22,261,000
18	24,804,000
19	26,088,000
20	11,904,000
21	12,113,000
22	5,446,000
23	5,636,000
24	41,613,000
TOTAL	$409,260,000

CHAPTER II

SCHEDULE 2 INDUSTRIES DURING 1931

Table 4 is a statement of the compensation awarded and the moneys handled during 1931 in Schedule 2 industries (in which the employer is individually liable for accidents to his workmen). Dominion Crown Cases under the Act by Dominion legislation, and Provincial Crown Cases referred to the Board for adjustment, are included.

The total amount of compensation awarded in Schedule 2 industries and Crown Cases during 1931 was $1,043,583.66. Of this amount, $260,531.08 was for workmen of municipal corporations, $178,076.85 for steam railroads, $17,817.56 for electric railways, $44,091.89 for navigation companies, $5,827.82 for express and sleeping car companies, $11,737.31 for telephone and telegraph companies, $384,069.18 for Dominion Crown Cases, and $131,756.16 for Provincial Crown Cases. Of the total amount awarded, $522,305.53 was for pensions in pension cases, and $521,278.13 for cases not pension cases and for compensation not pensions in pension cases.

In pension cases, except in the case of municipal or government bodies or departments thereof, not so desiring, deposits must be made by employers in Schedule 2 industries. Particulars of these are given under "Deposits under Section 28." Under "Claimants' Moneys" are included moneys held by the Board under awards in which in the interest of the claimant, or for some other reason, payment of the amounts held is deferred to a later date, as in the case of minors. "Deposits under Section 32" are amounts deposited with the Board to enable the Board to make prompt payments without waiting for receipt of cheque from employer.

Employers in Schedule 2 are assessed their share of the expense of administration as set out in Table 8. For 1931 that share amounted to $28,066.83, as compared with $25,315.57 in 1930, and $24,142.43 in 1929. Proportionate to the amount of compensation awarded, administration expenses in Schedule 2 and Crown Cases were 5.39 per cent. in 1931, as compared with 4.21 per cent. in 1930, and 3.68 per cent. in 1929.

Further information as to Schedule 2 funds, and particulars of Schedule 2 investments, are given in Chapter IV, and in Tables 9 and 14, and in the Appendix.

TABLE 4

STATEMENT FOR SCHEDULE 2 DURING 1931

SCHEDULE 2 AWARDS

	Awards Not Pensions	Pensions	TOTALS
Municipal Corporations, etc.	$127,169 29	$133,361 79	$260,531 08
Steam Railroads	102,984 10	75,092 75	178,076 85
Electric Railways	11,091 56	6,726 00	17,817 56
Navigation Companies	20,481 16	23,610 73	44,091 89
Express and Sleeping Car Companies	5,827 82	....	5,827 82
Telephone and Telegraph Companies	5,097 31	6,640 00	11,737 31
All Others	1,605 81	8,070 00	9,675 81
Dominion Crown Cases	182,472 92	201,596 26	384,069 18
Provincial Crown Cases	64,548 16	67,208 00	131,756 16
TOTALS	$521,278 13	$522,305 53	$1,043,583 66

SCHEDULE 2 FUNDS

Deposits under Section 28

Cash in bank and invested, January 1, 1931	$3,554,166 98	
Deposits received from employers	157,013 01	
Interest received	192,113 01	
Paid to pensioners		$327,172 57
Deposits returned to employers		162,762 01
Cash in bank and invested, December 31, 1931		3,413,358 42
	$3,903,293 00	$3,903,293 00

Claimants' Moneys

Cash in bank and invested, January 1, 1931	$28,976 81	
Deposits received from employers	1,640 00	
Interest received	1,413 66	
Paid to claimants		$5,313 65
Cash in bank and invested, December 31, 1931		26,716 82
	$32,030 47	$32,030 47

Deposits under Section 32

Cash in bank and invested, January 1, 1931	$51,180 02	
Deposits received from employers	788,675 78	
Payments made—Compensation and Medical Aid		$780,355 10
Deposits returned to employers		19,828 31
Cash in bank, December 31, 1931		39,672 39
	$839,855 80	$839,855 80

TOTALS OF FUNDS

Cash in bank and invested, January, 1931	$3,634,323 81	
Deposits received from employers	947,328 79	
Interest received	193,526 67	
Payments made		$1,112,841 32
Deposits returned to employers		182,590 32
Cash in bank and invested, December 31, 1931		3,479,747 63
	$4,775,179 27	$4,775,179 27

CHAPTER III

WORK HANDLED DURING 1931

This chapter deals with the work handled during 1931 and with the administration of the Act generally during the year. Particulars are given in Tables 5 to 8.

The figures are for what has been dealt with during 1931 without regard to the year in which the accidents dealt with occurred, while as explained in Chapter I the figures in Chapter I and Chapter V are for the accidents happening during the year.

Benefits Awarded During the Year

The total amount of compensation awarded during 1931 was $4,960,629.09, of which $3,917,045.43 was in Schedule 1 industries, $527,758.32 in Schedule 2 industries, and $515,825.34 in Crown cases; there was also paid for medical aid in Schedule 1 during the year $1,060,763.01, making the total benefits awarded during the year $6,021,392.10. In Schedule 2 and Crown cases medical aid is provided directly by the employer and no figures are available.

The benefits awarded during each year and the total since the commencement of the Act are as follows:

Year	Schedule 1 Compensation	Schedule 1 Medical Aid	Schedule 2 and Crown Compensation	Total Benefits
1931	$3,917,045 43	$1,060,763 01	$1,043,583 66	$6,021,392 10
1930	4,942,756 25	1,336,046 05	1,144,216 52	7,423,018 82
1929	5,346,621 19	1,385,524 62	1,280,011 97	8,012,157 78
1928	4,565,688 56	1,166,507 54	1,335,750 83	7,067,946 93
1927	3,930,417 59	1,062,859 64	1,091,377 64	6,084,654 87
1926	3,664,039 94	988,486 70	1,168,825 26	5,821,351 90
1925	3,635,530 27	875,836 01	1,054,077 11	5,565,443 39
1924	4,052,287 77	835,956 60	1,234,575 97	6,122,820 34
1923	4,036,170 26	788,905 90	1,348,785 58	6,173,861 74
1922	3,417,101 61	692,819 94	1,582,975 06	5,692,896 61
1921	3,858,017 50	662,793 89	1,668,452 10	6,189,263 49
1920	5,113,149 77	703,705 66	1,963,389 82	7,780,245 25
1919	2,808,638 65	386,298 51	997,922 77	4,192,859 93
1918	2,751,137 45	369,346 37	763,511 02	3,883,994 84
1917	2,286,954 99	*83,514 07	623,556 37	2,994,025 43
1916	1,553,653 38	†.........	451,709 93	2,005,363 31
1915	692,389 09	†.........	200,932 03	893,321 12
Totals	$60,571,599 70	$12,399,364 51	$18,953,653 64	$91,924,617 85

*Half year only. †No provision for medical aid.

The increase in benefits from the early years is largely by reason of increase in wages, compensation being for the most part a percentage of wages, and additional industries have been covered, and some material changes were made in compensation. The large total for 1920 is by reason of the retroactive increase in widows' and children's pensions, and the small amount awarded during 1915 is by reason of many 1915 accidents not being, nor capable of being, finally disposed of till the following year. The amount of benefits awarded for each year's accidents as distinguished from the amount awarded during the year is shown in Chapter V.

Accidents Reported During the Year

During 1931, 52,894 accidents were reported. These included some not serious enough to involve payment of either compensation or medical aid and for which no claim was made and others for which claims were made but which were not allowed by the Board.

At the close of the year there were 1,091 claims in assembly, as compared with 1,185 at the end of 1930, notice of the accident having been given but reports necessary to deal with the case not yet having been received.

The number of accidents reported each year and the total number since the commencement of the Act are as follows:

Year	Schedule 1	Schedule 2	Crown	Totals
1931	46,069	3,348	3,477	52,894
1930	61,490	4,486	3,291	69,267
1929	76,029	6,008	5,066	87,103
1928	69,011	5,815	4,572	79,398
1927	62,063	5,412	4,504	71,979
1926	57,032	4,942	3,942	65,916
1925	50,883	5,079	4,050	60,012
1924	49,558	4,916	4,201	58,675
1923	51,655	6,080	3,374	61,109
1922	42,139	7,124	1,148	50,411
1921	36,272	7,666	1,253	45,191
1920	46,177	7,222	1,452	54,851
1919	36,236	7,918	106	44,260
1918	40,662	7,113	73	47,848
1917	30,701	5,813	18	36,532
1916	21,269	4,806	17	26,092
1915	13,878	3,144	11	17,033
All Years	791,124	96,892	40,555	928,571

Accidents Paid For During the Year

Table 5 shows the number of accidents in which compensation or medical aid was paid during the year. The total number was 48,882 as compared with 61,795 during 1930. The 48,882 comprised 266 deaths, 23 permanent total disability cases, 2,679 permanent partial disability cases, 23,112 temporary disability cases, and 22,802 cases in which medical aid only was paid. Schedule 2 and Crown cases involving medical aid only, which are a large proportion of the accidents reported, are not included as accidents paid for as the medical aid is furnished directly by the employer.

The number of accidents in which compensation or medical aid was awarded each year since the commencement of the Act is as follows:

Year	Schedule 1	Schedule 2	Crown	Totals
1931	43,611	2,561	2,710	48,882
1930	56,715	2,723	2,357	61,795
1929	68,195	2,883	2,737	73,815
1928	61,384	2,723	2,425	66,532
1927	55,894	2,741	2,443	61,078
1926	52,199	2,489	2,182	56,870
1925	47,782	2,734	2,217	52,733
1924	46,616	2,820	2,475	51,911
1923	47,873	3,849	1,916	53,638
1922	37,172	4,572	765	42,509
1921	34,271	5,161	834	40,266
1920	42,693	4,444	714	47,851
1919	34,400	4,517	153	39,070
1918	36,565	4,335	30	40,930
*1917	25,277	3,406	19	28,702
*1916	15,370	2,825	3	18,208
*1915	8,328	1,494	7	9,829

*Cases involving medical aid only not covered till July 1, 1917.

Awards Changed

In addition to claims compensated, as shown in Table 5, the Board in 1931 reopened for further award 811 claims which had been settled previously.

Cheques, Assessments, Mail and Callers

In all 236,650 cheques were issued during the year, an average of about 786 daily, and there were 30,799 assessments made, including refunds. About 4,500 pieces of mail were handled daily, and the average number of office callers was 65 a day.

Receipts and Payments

The receipts and payments during the year are shown in Table 6, the statement for Schedule 2 including Crown cases. Explanation of the items and the funds referred to will be found in other parts of the report. A summary of receipts and payments since the commencement of the Act is given in the Appendix.

Payments to Safety Associations

The safety or accident prevention associations are organizations of employers established under the authority of the Act by the employers in twenty-one out of the twenty-four classes of industry. They are under the management of the employers, but the expenses are paid by the Board out of the accident fund.

The total amounts so paid are set out in Table 7, which table also shows the amount paid out on account of mine rescue work in Class 5.

Administration Expenses

The administration expenses of the Board, analyzed under the different headings, are shown in Table 8. The gross administration expenses during 1931 were $360,396.04, which included special statistical services for which refunds have been received of $9,905.00, making the total administration expenses $350,491.04, as compared with $346,999.73 during 1930. The employers pay the whole expense of the administration of the Act. The amount is divided according to the accidents handled among Schedule 1 (Accident and Silicosis Funds) Schedule 2, and Dominion and Provincial Crown.

The amount charged to the Silicosis Fund was $41,781.56, to Mine Rescue Work $3,193.34, and to Schedule 1 employers $249,238.86, to Schedule 2 $28,066.83, to Dominion Crown $16,280.79 and to Provincial Crown $11,929.67.

The cost of office furniture, fixtures, and equipment, including permanent equipment, has always been charged to administration expenses in the year in which payment therefor was made, and no entry for which has ever been made in the standing of the funds. The value of this furniture and equipment at the present time is estimated at about $25,000.

The total administration expenses for 1931 less expenses of supervising work in connection with silicosis and mine rescue stations (not properly administrative work) and handling claims for silicosis, were 5.07 per cent. of all benefits awarded, being 5.01 per cent. of benefits awarded in Schedule 1 and 5.39 per cent. in Schedule 2 and Crown cases.

TABLE 5

COMPENSATION, MEDICAL AID, AND ACCIDENTS PAID FOR, DURING 1931

Compensation Awarded during 1931

Schedule 1	$3,917,045 43
Schedule 2	527,758 32
Crown Cases	515,825 34
Total	$4,960,629 09

Medical Aid Paid during 1931

Schedule 1	$1,060,763 01
Schedule 2	furnished by employer
Crown Cases	furnished by employer

Accidents Paid For during 1931

	Medical Aid only	Temp. Dis.	Perm. Partial Dis.	Perm. Total Dis.	Death	TOTALS
SCHEDULE 1—						
Full Compensation	......	16,622	2,329	17	164	19,132
Part Compensation	......	1,649	......	......	28	1,677
Medical Aid only	22,802	......	......	......	......	22,802
Totals	22,802	18,271	2,329	17	192	43,611
SCHEDULE 2—						
Full Compensation	......	2,154	183	3	34	2,374
Part Compensation	......	180	......	......	7	187
Totals	......	2,334	183	3	41	2,561
CROWN CASES—						
Full Compensation	......	2,286	167	3	29	2,485
Part Compensation	......	221	......	......	4	225
Totals	......	2,507	167	3	33	2,710
GRAND TOTALS	22,802	23,112	2,679	23	266	48,882

TABLE 6

STATEMENT OF RECEIPTS AND PAYMENTS DURING 1931

Schedule 1

Receipts

Cash in Banks, Jan. 1, 1931:		
Dominion Bank	$180,634 48	
Can. Bank of Commerce	1,351 49	
Royal Bank of Canada	15,506 72	
		$197,492 69
Net Assessments, Penalties, etc., collected:		
Gross Assessments	$5,307,819 36	
Under Sec. 8	11,057 84	
Under Sec. 105	6,739 84	
Under Sec. 112 (3)	342 54	
From D. P. and N. H.	19,508 45	
	$5,345,468 03	
Less:		
Assessments and Penalties refunded	$139,351 68	
Merit Rating Refunds	120,233 02	
	$259,584 70	
		5,085,883 33
Interest	1,203,516 33	
1931 Apportionment of Discounts on Debenture Purchases (See Contra)	38,118 66	
		1,241,634 99
From Schedule 2 Employers and Dominion Crown for Administration Expenses, account of prior years paid out of Schedule 1 in 1930		48,553 06
Principal returned from investments	1,338,123 74	
Decrease in value of investments by amortization of premiums	42,631 91	
		1,380,755 65
Silicosis		277,115 56
Special Statistical Services		9,905 00
Bank Overdraft, Dec. 31, 1931, Dominion Bank		328,523 52
		$8,569,863 80

Payments

Compensation paid other than Pensions and Compensation Deferred		$2,263,504 70
Pensions paid		1,773,252 56
Deferred Compensation paid		49,352 67
Rehabilitation paid		3,965 57
Medical Aid paid		1,049,413 80
Silicosis paid		130,873 99
Paid under Section 8		950 31
Mine Rescue Work paid		18,893 69
Administration Expenses		360,396 05
Paid to Safety Associations		164,499 03
Invested	$2,716,101 93	
1931 Apportionment of Discounts on Debenture Purchases (See Contra)	38,118 66	
		2,754,220 59
Cash in Banks, Dec. 31, 1931:		
Canadian Bank of Commerce	286 68	
Royal Bank of Canada	254 16	
		540 84
		$8,569,863 80

TABLE 6—Continued

Schedule 2

RECEIPTS		
Cash in Imperial Bank, Jan. 1, 1931		$93,382 91
From Employers for Deposits under Section 28		157,013 01
From Employers for Claimants' Moneys		1,640 00
From Employers for Deposits under Section 32		788,675 78
Interest	$184,596 90	
1931 Apportion- of Discounts on Debenture Purchases (See Contra)	7,307 44	
Profit on Sale of Securities	1,622 33	
		193,526 67
Principal returned from investments	92,967 53	
Decrease in value of investments by amortization of premiums	2,946 40	
		95,913 93
		$1,330,152 30

PAYMENTS		
To Claimants out of Deposits under Section 28		$327,172 57
Deposits returned to Employers under Section 28		162,762 01
To Claimants out of Claimants' Moneys		5,313 65
Paid out of Deposits under Section 32:		
For Compensation	$734,948 75	
For Medical Aid	45,406 35	
		780,355 10
Deposits returned to Employers under Section 32		19,828 31
Invested	671 04	
Increase in Book Value of Investments by 1931 apportionment of discounts on Debenture Purchases (See Contra)	7,307 44	
		7,978 48
Cash in Imperial Bank, Dec. 31, 1931		26,742 18
		$1,330,152 30

TABLE 7

PAYMENTS TO SAFETY OR ACCIDENT PREVENTION ASSOCIATIONS, 1931

Association	Class	Total Payments	
Lumbermen's Safety Association................	1	$26,900 00	
Ontario Pulp and Paper Makers' Safety Association	2	12,100 00	
Class 5 Accident Prevention Association.........	5	6,500 00	
Industrial Accident Prevention Associations......	3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 23, 24,	110,399 03	
Electrical Employers' Association of Ontario......	22	8,600 00	
TOTAL.............................			$164,499 03

PAYMENTS FOR MINE RESCUE WORK (CLASS 5), 1931

Construction and Maintenance of Stations, Salaries and Supplies.......	$18,893 69	
Administrative Supervision..	3,193 34	
		$22,087 03

TABLE 8

ANALYSIS OF ADMINISTRATION EXPENSES DURING 1931

Salaries of Board and Staff..	$263,205 76	
Travelling Expenses of Board and Staff...........................	13,988 84	
Printing, Stationery, and Office Supplies..........................	15,228 37	
Postage and Excise Stamps..	21,608 73	
Telephone, Telegraph, and Express...............................	1,272 82	
Legal Expenses, Witness Fees, etc................................	2,084 82	
Special Expenses of Investigation of Fraudulent Cases..............	2,094 20	
Medical Examinations, X-ray Supplies, etc.........................	1,483 57	
Workmen's Travelling Expenses..................................	101 53	
Insurance and Security Service..................................	4,150 27	
Auditors' Services, under instructions of Attorney-General...........	3,500 00	
Rent of Premises, Electric Current, and Miscellaneous Services.......	25,478 54	
Permanent Equipment..	6,198 07	
Sundry Expenses..	53	
Gross Administration Expenses, 1931....................	$360,396 05	
Received for Special Statistical Services..................	9,905 00	
Total Administration Expenses.............................		$350,491 05
Charged to Silicosis Fund................................	$41,781 56	
Charged to Mine Rescue Work.............................	3,193 34	
Chargeable to Dominion of Canada........................	16,280 79	
Chargeable to Province of Ontario........................	11,929 67	
Chargeable to Schedule 2 Employers.....................	28,066 83	
Chargeable to Schedule 1 Employers.....................	249,238 86	
		$350,491 05

CHAPTER IV

CONDITION OF FUNDS

A general statement of the condition of the funds in Schedule 1 and in Schedule 2 is contained in Table 9, and particulars of the various funds and of the Board's investments are given in Tables 10 to 14. A summary since the commencement of the Act will be found in the Appendix.

Schedule 1 Funds

The Schedule 1 funds are known and referred to in the Act as the "Accident Fund." They comprise, in addition to current funds out of which temporary payments of compensation, medical aid, and administration expenses are paid, the Pension Fund, Disaster Reserve, and Compensation Deferred. The standing of the Accident Fund, showing assets and liabilities, at December 31, 1931, is shown in Table 9. The balance of assets in excess of liabilities at that date was $2,215,054.47, being $257,303.05 Disaster Reserve, $267,477.65 accrued interest on investments, and $1,690,273.77 standing at the credit of the classes December 31, 1931. This is exclusive of office equipment and furniture mentioned in Chapter III.

Pension Fund

The Pension Fund, representing the outstanding pension liability, comprises the largest part of the funds standing to the credit of Schedule 1. The purpose of the Pension Fund is to take care of future payments of pensions which have already been awarded. Actuarial tables (published as an appendix to the report for 1922), embodying the contingencies of death and remarriage, have been compiled to show for each age and kind of pension the average amount (sometimes referred to as capitalized value) necessary to complete pension payments. When a pension is awarded this average amount is transferred from current funds to the Pension Fund. All payments of pensions are made from the Pension Fund. Since the amount transferred in any one instance is the average amount required, no re-transfer is made should a residue be left at the expiry of the pension, nor is any additional transfer made should the amount be exhausted before expiry of the pension.

Re-transfer from Pension Fund

During the years 1923 and 1924 an actuarial survey of the Board's pension experience and revaluation of the pension liability was made, all existing pensions being revalued. As a result the Pension Fund was found to be a little in excess of what the experience indicated to be necessary. As at date of January 1, 1924, a re-transfer of $600,000 was accordingly made from the Pension Fund to current funds, being distributed among the different classes of industry in proportion to the amount of Pension Fund to the credit of each class.

As of date October 31, 1925, actuarial revaluation of all outstanding pension fund obligations was made, the Board's actuarial tables being used. To the liability for each class thus ascertained was added a surcharge of two per cent. to allow for possible divergence of actual from expected mortality. Deduction was made of the surcharged liability in total for all the classes from the balance in the Pension Fund and the difference was re-transferred to the current funds, proportional to each class according to the balance in the Pension Fund. The sum transferred amounted to $427,214.62.

Further revaluation has been made as at date October 31 in each of the years commencing 1926. On October 31, 1931, the Pension Fund showed a balance of $19,036,052.54, with liabilities of $18,935,531.86, an excess of funds over liabilities of $100,520.68.

Particulars of Pension Fund

Table 10 gives particulars of the Pension Fund for each class. The balance in the fund at the commencement of 1931 was $18,463,332.33; $1,541,395.61 was transferred during the year for pension awards; $928,837.34 interest (at the rate of five per cent. per annum, compounded half-yearly, which is the basis used in computing capitalized values of pensions) was added; and $1,773,252.56 was paid for pensions. The balance in the fund at the end of the year was $19,160,312.72.

The transfers for pension awards during the year included $24,966.33 transferred from the Disaster Reserve to meet the extra cost of incurred disabilities superimposed upon previous disabilities, and $53,047.12 transferred from Silicosis Account to provide for pensions in cases of silicosis in Class 5.

Disaster Reserve

The Disaster Reserve is a fund set aside under the provisions of Section 99 (2) of the Act to meet any unforeseen disaster or other circumstance which might unduly burden the employers in any class of industry. The fund has been accumulated by a transfer of one per cent. of the gross assessments up to the end of 1922, and for the year 1928. These are the only moneys set aside or held by the Board which do not directly cover liabilities actually incurred by reason of accidents which have already happened.

The standing of the Disaster Reserve is shown in Table 11. The balance at the end of 1931 was $257,303.05, $12,771.22 interest being added during the year to the $269,498.16 in the fund at the beginning of the year, and $24,966.33 transferred to the Pension Fund.

Compensation Deferred

The funds included under "Compensation Deferred" comprise compensation moneys held at interest for claimants in Schedule 1, payment being deferred to a future time by reason of the claimant being a minor or for other reason. The condition of the fund is shown in Table 12. At the beginning of the year the amount on hand was $114,368.02; deferred awards during the year amounted to $30,020.00, and $5,101.80 interest was added during the year; the payments during the year amounted to $49,352.67 of which $45,168.60 was for principal and $4,184.07 for interest, leaving a balance of $100,137.15 at the end of the year.

Silicosis Account

Table 13 gives particulars of the Silicosis Account which was established to take care of special assessments and payments in Class 5 necessitated by the addition of "Silicosis" contracted in mining operations to the list of industrial diseases under the Act, by amendment effective April 8, 1926. The balance in the account at the beginning of 1931 was a deficit of $21,288.80; $277,115.56 was collected by assessment, and $1,953.65 was added as interest; withdrawals were $225,702.67, of which $131,206.67 was for compensation, $11,349.21 for medical aid, $38,176.58 for salaries and expenses in connection with examination of underground mine workers, $3,188.65 for salaries and expenses of Referee Board, and $41,781.56 was transferred to the Accident Fund for the expenses of handling claims and supervision. The surplus in the account December 31, 1931, was $32,077.74.

Investments

Particulars of the Board's investments are given in Table 14.

The total invested at the end of the year in Schedule 1 was $24,317,709.33, consisting of $22,676,766.74 value of investments at the beginning of the year, $2,754,220.59 invested during the year, $267,477.65 accrued interest (earned but not received), less $1,380,755.65 principal returned.

Particulars of each investment are shown in the list, including kind of investment, particular security, yield of interest, term, par value, book value, and accrued interest.

With the exception of short-date deposits of current funds intended for use before the current year's assessments are received, all investments consist of Province of Ontario bonds, municipal or municipally-guaranteed debentures, and Dominion of Canada guaranteed bonds.

The average rate of interest received on permanent investments in Schedule 1 during 1931 was approximately 5.22 per cent., as compared with 5.10 per cent. in 1930, and 5.04 per cent. received during 1929. Three per cent. is received on current bank balances. The increase in interest rate for 1931 is in part due to $15,619.08 received as premiums on United States funds.

Schedule 2 Funds

The funds handled by the Board in respect of Schedule 2 industries include employers' deposits for pensions required to be made with the Board under the provisions of Section 28 of the Act, temporary deposits or advances of money made by employers under Section 32 to facilitate prompt payment of claims, and claimants' moneys held by the Board in cases of awards, payment of which by reason of the claimant being a minor or for other reason is deferred to a future time.

The standing of Schedule 2 funds at December 31, 1931, is shown in the latter part of Table 9, and the particulars and a list of Schedule 2 investments are given in Table 14.

At the end of 1931 the deposits held under Section 28 amounted to $3,413,358.42, deposits under Section 32 to $39,672.39, the amount of claimants' moneys held by the Board was $26,716.82, and the accrued interest, neither received nor apportioned, amounted to $34,181.06, making a total of $3,513,928.69, of which $3,453,005.45 was held in permanent investments and $26,742.18 was on deposit in the Imperial Bank, and $34,181.06 was interest accrued on investments but not yet payable.

The rate of interest on Schedule 2 funds during 1931 was 5.81 per cent., as compared with 5.60 per cent. during 1930, and 5.56 per cent. during 1929.

TABLE 9

STANDING SCHEDULE 1 ACCIDENT FUND AS AT DECEMBER 31, 1931

ASSETS		
Cash in Banks:		
Bank of Commerce......	$286 68	
Royal Bank...	254 16	
		$540 84
Short Date Deposits.........		925,000 00
Investments.................		23,125,231 68
Accrued Interest on Investments...................		267,477 65
Due from Schedule 2 employers for Administration Expenses paid out of Schedule 1 Funds		28,009 15
Due from Dominion of Canada for Administration Expenses paid out of Schedule 1 Funds		16,280 79
Due from Province of Ontario for Administration Expenses paid out of Schedule 1 Funds		11,929 67
		$24,374,469 78

LIABILITIES		
Overdraft—Dominion Bank...		$328,523 52
Compensation Deferred, other than Pensions.............		100,137 15
Pension Liability............		19,160,312 72
Balance of Silicosis Account at credit of employers.........		32,077 74
Compensation estimated outstanding.................		1,932,757 41
Medical Aid estimated outstanding.................		439,346 53
Assessments estimated to be refunded on adjustment of 1931 Pay Rolls (see Table 1).....		73,926 69
Merit Rating Refunds to be made....................		92,333 55
Assets in Excess of Liabilities:		
Disaster Reserve.......	$257,303 05	
Accrued Interest on Investments......	267,477 65	
	$524,780 70	
Balance at Credit of Classes (Table 1).....	1,690,273 77	
		2,215,054 47
		$24,374,469 78

STANDING SCHEDULE 2 FUNDS AS AT DECEMBER 31, 1931

Cash in Imperial Bank.......	$26,742 18
Investments.................	$3,453,005 45
Accrued Interest on Investments	34,181 06
	$3,513,928 69

Balance Employers' Deposits under Section 28...........	$3,413,358 42
Balance Employers' Deposits under Section 32...........	39,672 39
Claimants' Moneys held by Board....................	26,716 82
Accrued Interest on Investments...................	34,181 06
	$3,513,928 69

TABLE 10

PENSION FUND, SCHEDULE 1 BY CLASSES, DECEMBER 31, 1931

Class	Balance Forward from 1930	Pension Awards during 1931	Interest Received	Pension Payments	Balance as at Dec. 31, 1931	Class
	$ c.	$ c.	$ c.	$ c.	$ c.	
1	2,022,554 15	122,320 54	100,653 02	191,013 17	2,054,514 54	1
2	1,009,076 44	24,672 84	49,410 39	90,810 30	992,349 37	2
3	263,335 51	10,152 23	12,901 34	27,140 51	259,248 57	3
4	653,686 89	*10,268 08	31,787 79	61,827 87	633,914 89	4
5	2,283,007 49	*†311,629 62	117,727 86	226,667 53	2,485,697 44	5
6	738,199 02	74,086 73	37,317 34	76,219 31	773,383 78	6
7	592,486 38	10,407 64	28,836 85	56,147 01	575,583 86	7
8	351,851 71	25,404 60	17,587 39	34,297 70	360,546 00	8
9	958,382 99	*29,747 31	47,107 60	85,472 15	949,765 75	9
10	984,115 56	48,215 25	48,778 51	89,394 15	991,715 17	10
11	911,124 34	*40,767 76	45,072 05	82,392 04	914,572 11	11
12	585,067 68	48,484 05	29,283 57	61,737 73	601,097 57	12
13	411,535 33	53,476 37	21,245 10	37,234 45	449,022 35	13
14	190,654 93	15,661 60	9,567 97	18,977 59	196,906 91	14
15	731,070 22	47,618 78	36,393 03	72,009 86	743,072 17	15
16	456,048 54	*57,627 01	23,555 48	39,138 88	498,092 15	16
17	396,065 79	21,674 91	19,725 09	34,543 69	402,922 10	17
18	103,899 08	11,150 92	5,283 73	10,209 20	110,124 53	18
19	271,739 47	*21,018 91	13,712 37	22,774 27	283,696 48	19
20	402,460 87	91,498 16	21,649 27	41,139 93	474,468 37	20
21	770,211 18	114,685 80	39,835 70	81,351 94	843,380 74	21
22	365,984 87	*64,326 04	19,105 07	41,527 55	407,888 43	22
23	1,202,170 16	73,609 16	60,033 19	106,267 84	1,229,544 67	23
24	1,808,603 73	*212,891 30	92,267 63	184,957 89	1,928,804 77	24
	18,463,332 33	1,541,395 61	928,837 34	1,773,252 56	19,160,312 72	

*Transferred from Disaster Reserve:

Class	
Class 4	$1,021 00
5	13,523 16
9	−267 04
11	−202 70
16	31 25
19	6,621 08
22	1,566 40
24	2,673 18

†Transferred from Silicosis Account:
Class 5.............. $53,047 12

TABLE 11

DISASTER RESERVE, DECEMBER 31, 1931

Disaster Reserve as at December 31, 1930		$269,498 16
Interest credited in 1931		12,771 22
		$282,269 38
Withdrawn account Class 4	$1,021 00	
" " " 5	13,523 16	
" " " 9	−267 04	
" " " 11	−202 70	
" " " 16	31 25	
" " " 19	6,621 08	
" " " 22	1,566 40	
" " " 24	2,673 18	
		24,966 33
Amount as at December 31, 1931		$257,303 05

TABLE 12

COMPENSATION DEFERRED, DECEMBER 31, 1931

Balance in fund, December 31, 1930		$114,368 02
Compensation awarded, payment deferred, during 1931		30,020 00
Interest credited for 1931		5,101 80
		$149,489 82
Paid claimants during 1931:		
Principal	$45,168 60	
Interest	4,184 07	
		49,352 67
Balance December 31, 1931		$100,137 15

TABLE 13

SILICOSIS ACCOUNT, DECEMBER 31, 1931

Balance in fund, December 31, 1930		$−21,288 80
Assessments collected under Class 5		277,115 56
Interest credited in 1931		1,953 65
		$257,780 41
Payments made:		
For Compensation	$131,206 67	
For Medical Aid	11,349 21	
For Salaries and Expenses	38,176 58	
To Accident Fund for handling claims and supervision	41,781 56	
For Salaries and Expenses of Referee Board	3,188 65	
		225,702 67
Balance December 31, 1931		$32,077 74

TABLE 14

INVESTMENTS, DECEMBER 31, 1931

Schedule 1

Book Value of Investments, Jan. 1, 1931	$22,676,766 74
Invested during year	2,754,220 59
	$25,430,987 33
Less Principal returned	1,380,755 65
Book Value of Investments, December 31, 1931, Principal	$24,050,231 68
Plus Accrued Interest to December 31, 1931	267,477 65
Total Book Value of Investments, December 31, 1931	$24,317,709 33

Schedule 2

Book Value of Investments, January 1, 1931	$3,540,940 90
Invested during year	7,978 48
	$3,548,919 38
Less Principal returned	95,913 93
Book Value of Investments, December 31, 1931, Principal	$3,453,005 45
Plus Accrued Interest to December 31, 1931	34,181 06
Total Book Value of Investments, December 31, 1931	$3,487,186 51

LIST OF INVESTMENTS

SCHEDULE 1 FUNDS

Municipal Debentures

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Amherstburg	5.50	1932–1938	12,167 44	12,386 63	29 40
Belleville	6.25	May 15, 1941	65,000 00	63,851 24	491 51
	5.35	Jan. 2, 1942	14,000 00	14,697 01	....
	5.35	Apr. 5, 1942	13,000 00	13,671 52	185.92
	5.30	May 1, 1952	120,000 00	122,982 72	1,103 02
	5.30	1947–1949	20,000 00	19,347 49	167 12
	5.041	1943–1954	156,000 00	146,555 72	1,769 45
	5.645	1946–1960	147,388 05	135,703 88	1,837 30
	5.798	1946–1950	17,856 38	16,376 45	146 70
	5.645	1945–1959	24,545 76	22,605 16	100 85
Blind River (guaranteed by Province of Ontario)	4.70	1932–1948	36,000 19	35,458 35	1,087 40
Bowmanville	5.27	1945–1949	41,035 25	39,855 59	1,371 60
Brampton:	5.50	1932–1934	4,792 60	4,837 28	12.60
	5.50	1932–1944	2,157 02	2,031 37	4 25
Brantford:	6.25	Dec. 31, 1942	10,000 00	8,623 09	....
	6.20	1932–1939	50,000 00	48,686 43	....
	5.972	1937–1947	52,200 00	52,312 02	....
	5.535	1940–1949	53,000 00	50,359 30	116 15
	4.95	1941–1953	13,000 00	13,772 71	31 34
	5.	Dec. 31, 1950	5,000 00	4,391 28	....
Bridgeburg	5.	1950–1956	13,403 01	14,286 39	401 90
Burlington	4.80	1942–1951	10,843 18	11,108 45	106.95
Carleton Place	5.50	1932–1941	13,321 33	13,321 33	32 10
Collingwood (guaranteed by County of Simcoe	5.45	1947–1951	191,000 00	181,164 17	784 90
Cornwall	5.20	1944–1953	51,862 79	53,636 56	1,437 95
Creemore (guaranteed by County of Simcoe)	5.375	1932–1934	1,514 77	1,532 45	29 85
Dundas	5.375	1932–1946	17,265 95	17,399 38	314 80
East York:	5.446	1940–1965	172,187 29	162,322 57	1,438 81
	5.448	1940–1965	72,105 65	67,985 31	306 20
Essex, Village	5.50	1932–1934	1,854 15	1,836 33	61.95
Essex Border Utilities Commission	5.484	1942–1956	199,989 88	200,346 68	10,065 25
Etobicoke, Township:	5.017	1946–1949	45,000 00	47,411 33	1,356 17
	4.95	1940–1957	25,277 74	25,409 44	848.35
	5.19	1941–1957	71,000 00	69,465 20	593.30
	4.95	1940–1958	28,416 47	28,569 38	968 60
Fort Erie:	5.05	1945–1961	50,715 22	53,739 21	229 25
	5.05	1944–1961	23,621 00	25,101 53	601 50
Fort William:	5.75	Feb. 1, 1944	25,000 00	23,347 00	523 97
	6.40	May 1, 1950	10,000 00	9,568 95	100 27
	5.125	Apr. 1, 1955	55,000 00	54,070 46	685 62
	4.91	1946–1951	69,924 85	70,635 09	296 95
	4.91	July 1, 1952	34,672 60	35,073 29	....
	4.91	July 1, 1947	42,751 00	43,165 45	....
	5.07	Apr. 1, 1959	76,000 00	75,208 56	947 40
Fort William (guaranteeing McKellar Hospital)	4.625	May 1, 1948	88,000 00	86,739 87	661 80
Forest Hill Village:	5.036	1943–1957	44,730 93	44,530 61	747 55
	5.15	1940–1948	112,061 49	110,756 08	460 50
	5.055	1932–1958	95,255 03	94,702 70	391 45
	5.75	1934–1939	64,034 46	62,321 75	526 30
	5.60	1940–1959	121,602 70	113,212 49	....
	5.60	1934–1949	56,007 44	54,157 40	122 75
	5.22	1944–1947	26,000 00	25,453 23	213 70

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Galt:	5.622	Oct. 30, 1940	42,000 00	38,711 04	321 04
	5.65	Dec. 6, 1961	19,284 69	18,433 99	70 50
	5.30	1934–1943	83,374 04	84,398 41	3,844 33
	5.20	Dec. 1, 1962	68,400 36	71,543 02	319 50
	5.20	Dec. 1, 1962	14,135 90	15,867 85	72 03
	4.95	Dec. 15, 1964	14,097 18	15,351 57	36 10
	5.05	July 2, 1965	35,254 75	37,805 29	......
Glencoe:	6.75	1932–1940	10,471 68	9,918 49	432 30
	5.33	May 1, 1959	70,000 00	71,710 07	632 90
Grey, County	5.25	Aug. 1, 1945	75,000 00	73,236 13	1,571 92
Guelph:	6	1940–1944	13,287 11	12,771 23	368 39
	5.183	June 30, 1942	75,000 00	73,898 99	....
	5.20	June 30, 1938	20,000 00	19,794 62	....
	4.914	June 30, 1942	50,000 00	50,348 23	....
Hamilton:	5.875	1935–1937	8,740 84	8,441 13	37 11
	5.375	Feb. 1, 1932 and 1939	5,536 91	5,573 52	127 65
	6	1932–1940	93,849 28	93,849 28	941 06
	5.90	1934–1941	164,629 81	165,485 52	3,301 62
	5.45	1937–1938	40,000 00	41,192 20	604 93
	5.50	Feb. 1, 1936	7,000 00	7,138 14	176 05
	4.95	1933–1942	150,000 00	154,816 23	3,458 22
	5.749	1941–1945	44,000 00	41,206 92	554 52
	5.714	1938–1945	190,000 00	172,991 28	3,584 00
	5.554	1938–1945	77,000 00	70,704 65	1,442 96
	5	1940–1945	97,000 00	92,787 31	1,088 25
	5	1940–1947	102,000 00	97,794 78	1,521 65
	5.064	1947–1949	54,000 00	53,616 69	673 15
	5.064	1947–1949	104,000 00	103,261 82	854 80
	5.06	1947 & 1949	2,000 00	1,986 03	....
	5.06	1947–1949	6,000 00	5,958 12	24 65
	5.068	1946–1948	19,000 00	17,847 27	208 50
	5.067	1946–1949	42,000 00	39,445 32	310 70
	5.068	1946–1948	47,000 00	44,158 48	....
	5.068	1946–1948	55,000 00	51,605 10	1,030 70
	5.068	1946–1948	32,000 00	30,023 81	355 10
	5.068	1946–1948	9,000 00	8,444 85	66 60
	5.067	1946–1948	16,000 00	15,012 76	59 20
	5.068	1946–1949	82,000 00	76,933 42	1,536 70
	5.067	1946–1949	51,000 00	47,847 95	760 80
	5.048	Jan. 2, 1945	43,000 00	42,800 01	....
	5.048	Feb. 1, 1945	26,000 00	25,879 07	541 40
	5.048	Apr. 1, 1945	16,000 00	15,925 58	199 45
	5.048	June 1, 1945	55,000 00	54,744 20	218 50
	5.048	May 1, 1945	32,000 00	31,851 17	263 00
Hanover	5.30	1945–1959	65,703 97	67,253 75	1,197 95
Hastings	5.50	1932–1935	4,690 73	4,629 84	19 90
Hawkesbury	7.25	1932–1940	56,334 76	53,393 72	3,092 96
Hydro-Electric Power Commission (guaranteed by Province of (Ontario):	5.004	Jan. 2, 1970	95,000 00	90,969 17	....
	4.70	June 24, 1941	40,000 00	43,948 92	4 60
Kingston:	6.10	1935–1948	4,600 00	4,569 60	46 12
	6.125	1932–1945	46,800 00	46,439 91	....
	5.30	Jan. 1, 1942	35,000 00	35,536 21	....
Kingsville	6.625	1932–1941	39,145 95	38,917 65	1,491 80
Kitchener:	5.25	1943–1951	47,682 18	48,927 50	222 73
	5.25	1943–1952	28,490 33	29,244 06	390 65
	5.75	1932–1946	902 22	887 56	10 45
	4.99	1942–1945	24,849 50	24,874 14	364 20

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Leaside	6	1932–1949	98,000 00	94,102 61	2,687 60
Lincoln, County	4.95	Sept. 11, 1943	90,000 00	90,402 65	1,368 50
Lindsay	5.40	Jan. 1, 1935	14,681 07	14,722 03	....
Listowel	5.875	1932–1947	14,395 76	14,026 59	329 70
London:	5.523	Aug. 3, 1939	24,000 00	21,663 01	397 15
	5.50	1937 & 1938	11,000 00	10,426 80	....
	6.538	June 30, 1942	25,000 00	20,703 04	3 05
	6.27	1935–1939	114,425 61	113,105 68	18 75
	5.85	June 30, 1942	50,000 00	43,790 76	6 10
	5.85	Jan. 1, 1944	50,000 00	46,380 76	....
	5.35	1940 & 1941	15,000 00	15,167 94	2 26
	5.35	1937–1941	75,000 00	75,708 36	11 30
	5.25	1934–1940	103,623 46	104,880 29	1,904 96
	5.23	Aug. 3, 1939	20,000 00	18,410 01	330 96
	4.955	June 30, 1945	25,000 00	25,115 15	3 42
	4.955	1938–1942	45,000 00	45,151 98	....
	4.955	1939–1945	26,000 00	26,090 48	....
	4.981	June 30, 1942	25,000 00	23,519 20	....
	5	1944–1949	236,000 00	236,000 00	....
	4.819	1945–1950	299,000 00	305,162 94	3,727 30
	4.819	1946–1950	58,000 00	59,161 45	....
Middlesex, County	5.10	1941–1945	79,000 00	78,322 82	1,309 45
Midland (guaranted by County of Simcoe):	4.97	1940–1947	14,339 86	15,041 65	263 63
	4.97	1940–1944	10,720 05	11,194 89	98 52
	4.964	1940–1947	36,422 68	36,531 99	533 85
	4.971	1940–1957	47,160 21	47,322 19	1,285 60
Mimico:	5.636	1935–1960	62,940 45	62,067 07	....
	5.68	1935–1950	36,525 33	34,538 21	....
	5.05	1932–1961	47,500 00	50,345 60	2,183 05
Mount Forest	5.20	1945–1948	26,183 59	25,634 75	46 60
Napanee	4.80	1941–1943	14,623 28	14,862 59	244 45
Niagara Falls:	6.60	1938–1945	50,548 31	44,846 09	1,904 19
	6.50	1934–1941	59,553 78	57,988 11	1,801 30
	5.318	1940–1953	54,098 50	55,141 61	1,744 48
	5.32	1938–1952	16,139 50	15,642 36	73 89
North Bay:	6	1938–1942	1,788 66	1,682 91	50 70
	5.70	1937–1942	76,276 50	77,794 15	3,071 93
	4.75	1937–1947	42,775 84	43,667 19	52 75
	4.75	1937–1943	17,558 14	17,240 31	530 35
	5.10	1939–1948	152,370 42	158,048 30	....
Northumberland and Durham, United Counties of	5.394	1932–1948	52,547 39	51,125 95	115 15
North Toronto (City of Toronto)	6.05	1935–1942	20,246 58	18,461 75	64 89
North York, Township:	4.97	1940–1941	8,500 00	8,827 28	372 72
	4.97	1940–1944	17,866 71	18,658 01	576 10
	4.97	1940–1943	25,811 14	26,913 14	357 80
	4.95	1943–1957	36,885 12	39,390 81	1,700 75
	4.75	1940–1948	47,687 13	48,797 01	1,998 90
	4.85	1940–1958	24,469 63	26,346 37	1,128 25
Oakville	5.50	1932–1935	2,235 03	2,260 74	33 45
Orillia (guaranteed by County of Simcoe)	4.96	1941–1954	17,156 14	17,239 06	216 20
Oshawa:	6.75	1932–1935	28,094 06	27,618 30	212 45
	6.40	1945–1951	45,133 48	43,315 72	2,270 24
	7	May 1, 1932	1,010 33	987 67	40 15
	5.40	1932–1936	19,207 92	19,278 51	....
	5.375	June 1, 1938	6,068 02	5,937 72	177 88
	5.322	1939–1943	78,000 00	76,079 26	2,286 58
	5.648	1945–1949	100.000 00	98,447 74	....

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value		Book Value		Accrued Interest	
			$	c.	$	c.	$	c.
Ottawa:	5.522	July 1, 1941	31,633	33	28,121	46	....	
	5.25	1932–1945	118,766	39	120,580	12	....	
	6.12	July 1, 1939	10,800	00	9,427	72	....	
	6.10	July 1, 1938	15,219	83	14,335	11	....	
	5.726	July 1, 1946	100,000	00	92,932	12	....	
	4.95	July 1, 1951	15,000	00	16,956	42	....	
Oxford	6.25	1933–1936	9,963	03	9,580	20	292	05
Owen Sound:	5.20	Feb. 1, 1943	25,000	00	25,642	17	576	37
	4.95	Apr. 1, 1945	100,000	00	100,494	62	1,260	27
	5.10	Feb. 1, 1945	50,000	00	49,516	13	1,041	10
Parry Sound:	6.50	1932–1944	27,088	51	26,594	87	676	80
	7.125	1937–1950	50,235	30	45,503	50	1,263	44
Pembroke	5	1946–1954	75,025	53	75,025	53	2,199	36
Perth:	5.50	1932–1943	2,408	99	2,342	47	9	90
	5.50	1932–1944	309	24	300	18	1	25
	5.50	1932–1934	1,241	67	1,241	74	2	20
	5.50	1932 & 1933	258	34	256	50	1	05
	5.50	1932–1934	141	32	140	01		55
	4.95	1940–1947	52,000	00	52,239	61	1,267	95
	4.79	1940–1948	91,000	00	92,837	88	2,667	65
	5.10	1945–1950	21,000	00	20,775	49	701	90
Peterborough:	5.184	June 30, 1946	50,000	00	49,072	32	....	
	6.10	Dec. 31, 1946	15,000	00	13,391	88	....	
	6.205	June 30, 1950	155,000	00	151,535	80	25	48
	6.25	Dec. 31, 1940	50,000	00	50,000	00	....	
Port Arthur:	6.625	Jan. 1, 1942	11,193	32	9,881	72	....	
	6.595	June 1, 1940	100,000	00	96,168	31	509	59
	6.80	Jan. 1, 1943	17,520	00	15,105	26	....	
	5.20	June 1, 1959	50,000	00	48,546	57	205	50
Port Arthur (guaranteeing General Hospital):	5.125	Nov. 1, 1955	100,00	00	105,142	70	904	10
	5.15	Oct. 1, 1954	40,000	00	41,874	31	548	50
Preston	6.50	1932–1937	9,421	78	9,189	64	454	25
Renfrew:	5.75	1932–1935	4,342	75	4,372	14	24	25
	5.85	1932–1947	7,790	35	7,866	64	344	45
	4.95	1947–1958	55,034	42	55,401	64	2,080	70
Richmond Hill	5.50	1932–1944	6,273	10	6,273	10	290	25
St. Catharines:	5.385	Dec. 29, 1945	50,000	00	48,127	10	13	70
	6.312	1932–1940	22,500	00	22,661	11	....	
	6.321	1932–1940	26,100	00	26,030	63	....	
	5.45	1934–1942	24,750	00	25,470	54	248	18
St. Marys:	5.50	Oct. 31, 1943	4,870	30	4,668	00	....	
	5.50	Jan. 1, 1944	2,500	00	2,392	20	....	
St. Thomas:	6.38	1937–1951	129,562	40	125,251	12	3,258	56
	6.38	1938 & 1939	3,387	15	3,204	37	3	57
	5.40	1934–1937	70,000	00	71,505	15	483	29
	5.15	1949–1953	25,000	00	24,540	34	58	22
	5.20	1934–1949	39,000	00	38,354	90	90	82
Sandwich:	5.625	1932–1935	2,684	40	2,707	67	147	35
	6.625	1932–1943	18,392	05	17,758	63	692	35
	6.549	1938–1940	6,774	32	6,547	79	18	92
	6.546	1932–1949	41,737	53	40,112	96	624	35
	5.484	1944–1955	78,106	11	78,248	85	2,165	56
	5.579	1944–1947	11,000	00	10,911	68	51	40
	5.25	1944–1958	313,879	39	323,593	36	15,797	10
	5.50	1945–1960	126,694	20	126,694	20	....	
Sandwich West, Township	5.05	1938–1948	80,272	18	85,913	94	4,037	80
Sarnia:	6.50	1932–1939	5,142	04	4,929	25	....	
	6.60	1932–1935	35,000	00	34,209	93	....	
	5.217	1942–1947	62,914	68	61,600	38	792	90

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Sault Ste. Marie:	5.50	Mar. 25, 1949	24,771 50	26,149 12	394 97
	6.405	Apr. 1, 1950	45,000 00	40,621 77	623 84
	6.555	Mar. 1, 1935	100,000 00	98,288 74	2,005 48
	5.096	Jan. 20, 1945	6,000 00	6,234 00	147 35
Scarborough, Township:	4.70	1940–1943	25,000 00	25,610 07	54 80
	5.35	1942–1958	75,474 03	72,133 21	165 40
	6	1932–1940	25,689 23	24,908 52	56 30
Simcoe	5.50	1932–1945	8,675 96	8,887 98	22 80
Smith's Falls:	5.50	1932–1944	6,377 32	6,377 32	292 10
	5.50	1932–1946	13,406 13	13,855 11	537 70
	5.50	1932–1936	835 49	847 07	25 10
	5.775	1932–1937	2,422 08	2,397 04	89 05
	5.776	1932–1947	11,218 88	11,004 77	412 45
	5.022	1940–1945	64,306 49	64,187 09	2,158 21
	5	1944–1946	54,000 00	54,000 00	1,812 33
Stratford:	5.50	Jan. 1, 1945	25,000 00	23,860 06	....
	5.50	Jan. 1, 1945	15,000 00	14,316 85	....
	5.50	Jan. 1, 1945	10,000 00	9,544 03	....
	5.625	Jan. 1, 1945	13,000 00	12,259 45	....
	6.25	Jan. 1, 1951	40,000 00	38,891 10	....
	5.40	Jan. 1, 1942	124,000 00	129,690 77	....
	5.40	Jan. 1, 1942	50,000 00	50,380 64	....
	5.401	1937–1952	83,000 00	83,449 85	....
	4.95	June 15, 1935	143,000 00	143,255 68	3,917 81
	4.95	June 15, 1940	7,000 00	7,025 01	191 78
	4.95	June 15, 1955	30,000 00	30,210 79	821 92
	4.915	Jan. 1, 1945	2,000 00	2,016 04	....
Sudbury:	7	1932–1937	26,225 39	24,639 32	1,092 10
	5.50	1940–1949	49,943 48	47,600 94	136 80
	5.05	1945–1948	66,235 66	65,876 94	825 65
Thorold	5.134	Aug. 15, 1958	3,000 00	2,942 25	62 90
Tillsonburg:	5.50	Mar. 20, 1945	975 00	975 00	42 16
	5.50	1932–1944	940 95	940 95	40 35
	5.50	1932–1935	1,437 23	1,437 23	61 70
	5.50	1932–1935	718 60	718 60	30 85
Toronto:	6.027	1932–1938	12,000 00	11,344 42	....
	6	1940–1943	60,000 00	55,548 21	254 79
	5.30	July 1, 1948	4,866 66	4,176 36	....
	5.25	July 1, 1942	10,000 00	9,800 75	....
	6.049	1937–1939	16,000 00	15,548 53	294 14
	6.049	Apr. 1, 1938	4,000 00	3,884 28	55 45
	6.049	1937–1938	7,000 00	6,814 26	....
	6.08	July 1, 1948	29,200 00	22,931 46	....
	6.08	July 1, 1945	7,000 00	6,300 69	....
	6.08	July 1, 1948	4,000 00	3,349 27	....
	6.05	July 1, 1948	6,326 66	4,984 30	....
	6.021	Jan. 1, 1955	19,000 00	15,427 70	....
	6	1932–1937	35,000 00	34,489 89	479 95
	6.434	1941–1948	269,000 00	258,544 01	4,068 27
	6.436	1940–1948	231,000 00	222,390 33	2,316 40
	6.24	1934–1939	49,000 00	48,566 17	982 70
	6.20	1935–1940	50,000 00	49,550 78	1,002 74
	6.25	June 1, 1951	100,000 00	97,201 89	509 59
	6.40	June 1, 1948	59,000 00	56,622 72	300 66
	6.35	1943 & 1944	147,000 00	142,772 45	749 10
	6.35	1942–1944	53,000 00	51,556 68	270 08
	6	1937–1940	44,000 00	42,751 71	....
	6	1936–1949	61,000 00	61,000 00	310 85
	6	1937–1947	17,000 00	16,311 34	....
	6	1942–1951	52,000 00	52,000 00	786 41
	6	1935–1940	50,000 00	48,714 35	....
	6	1937–1941	28,000 00	28,000 00	....
	6	1937–1939	9,000 00	9,000 00	45 86
	6	1937–1939	7,000 00	7,000 00	105 86

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Toronto:	6	1937–1939	10,000 00	10,000 00	....
	6	1937–1939	14,000 00	13,628 51	....
	6	1938 & 1939	9,000 00	8,744 44	....
	5.40	1939–1941	150,000 00	151,020 30	2,757 55
	5.35	Mar. 1, 1951	83,000 00	89,482 84	1,664 55
	5.35	Jan. 1, 1951	15,000 00	16,136 35	....
	5.20	1940–1942	58,000 00	57,170 83	484 66
	5.20	1940–1951	41,000 00	42,135 71	....
	5.25	Apr. 1, 1951	50,000 00	48,483 30	630 14
	5.02	1940–1951	21,000 00	22,858 05	107 01
	5.02	Mar. 1, 1940	1,000 00	1,067 13	20 05
	4.925	July 1, 1950	20,000 00	20,181 01	....
	4.925	Apr. 1, 1950	25,000 00	25,226 24	315 07
	5.265	July 1, 1944	35,000 00	32,564 14	....
	5.252	July 1, 1945	96,000 00	89,072 35	....
	4.988	July 1, 1948	58,000 00	54,852 97	....
	4.95	June 1, 1946	7,000 00	6,676 81	25 90
	4.95	1943–1945	40,000 00	38,359 09	300 82
	4.95	1943–1948	33,000 00	31,584 82	....
	4.95	1945–1951	106,000 00	106,573 15	....
	5.10	1952–1956	220,000 00	202,725 13	4,150 00
	5.03	1952–1956	145,000 00	134,675 49	2,180 95
	4.98	1952–1956	38,000 00	35,521 56	431 10
	5.05	1951–1956	262,000 00	243,342 09	2,971 75
	5.11	1951–1956	85,000 00	78,100 72	639 25
	4.90	June 1, 1945	18,000 00	19,938 74	91 75
	4.90	Mar. 1, 1949	2,000 00	2,139 92	36 75
	4.75	June 1, 1948	2,000 00	2,283 15	10 20
	4.77	July 1, 1948	3,000 00	3,419 07	....
	4.75	1941–1951	179,000 00	203,722 54	....
	4.75	June 1, 1951	75,000 00	86,835 00	382 20
	4.82	1942–1950	30,000 00	33,585 89	152 90
	4.82	Oct. 1, 1949	25,000 00	28,523 70	378 10
	5.05	1955–1959	150,000 00	148,925 89	616 40
Toronto Housing Commission (guaranteed by City of Toronto)	5.515	Oct. 1, 1953	10,000 00	9,347 87	124 65
Toronto Junction (City of Toronto)	6.187	Jan. 2, 1943	33,000 00	28,647 01	....
Toronto, Township	4.95	1941–1952	18,104 29	19,207 05	627 42
Trenton	5	1942 & 1943	25,000 00	26,079 53	1,103 76
Walkerville:	6.597	1932–1942	23,444 45	22,745 15	65 50
	6.271	1942–1948	17,531 70	16,279 01	47 54
	5	1949–1951	99,038 43	111,016 16	276 75
	4.70	1942–1947	25,511 95	26,237 24	59 40
Walkerville-East Windsor Water Commission	5.15	1947–1959	291,476 32	304,587 75	....
Welland, City	5.439	Apr. 1, 1939	42,000 00	43,428 02	635 18
Welland, County	5.38	Dec. 15, 1945	10,000 00	9,633 23	23 28
Weston	5	1949–1952	24,949 65	28,017 53	65 60
West Gwillimbury Township (guaranteed by County of Simcoe)	5.459	1942–1956	36,107 36	36,272 99	....
Wheatley, Village	5.25	1951–1960	22,892 29	23,674 52	734 75
Whitby:	5.375	1932–1946	10,677 31	10,766 51	91 70
	5.375	1932–1946	2,904 32	2,933 87	27 10
	5.38	1932–1946	4,834 52	4,881 95	41 50
Windsor:	5.563	1932–1935	11,665 41	11,647 86	28 15
	6.413	1942–1950	200,257 35	192,319 71	1,020 30
	6.05	1938–1940	32,977 61	32,867 81	585 45
	6.10	Sept. 15, 1941	12,337 43	12,245 38	219 01
	6.05	June 1, 1940	13,000 00	12,957 28	66 25
	5.32	1946–1952	110,000 00	112,189 13	1,525 00

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Windsor:	5.101	June 1, 1951	24,000 00	26,646 66	122 30
	4.95	1944–1950	163,000 00	154,944 43	602 90
	4.95	1943–1949	37,000 49	37,194 97	152 05
Woodstock:	5.625	Dec. 31, 1936	7,045 32	6,707 75	....
	5.625	Nov. 1, 1938	10,000 00	9,376 30	....
	5.625	Nov. 30, 1937	6,000 00	5,668 23	....
York, Township:	4.958	1941–1946	100,000 00	100,372 13	424 66
	5.572	1941–1951	102,407 13	106,474 31	2,053 75
	5.408	1949–1956	225,000 00	213,731 18	4,715 77
	4.979	1942–1946	195,000 00	195,383 47	4,087 00
	5.6122	1945–1956	110,295 98	102,328 02	1,828 15
	5	1945–1955	22,000 00	22,000 00	93 45
	4.85	Feb. 1, 1952	25,000 00	25,482 64	524 00
	4.85	1941–1949	20,731 26	22,068 22	....
	4.93	1941–1952	8,679 27	9,657 66	174 05
	4.93	1941–1952	27,659 28	30,832 67	695 65
	5.08	1945–1958	74,000 00	73,216 49	922 45
York, Township (guaranteed by County of York):	5.39	1951–1956	93,000 00	88,264 02	394 95
	4.95	1946–1957	21,000 00	21,133 47	350 95
			18,013,903 30	17,795,314 96	226,944 74

TABLE 14—Continued

Other Permanent Investments

Security	Yield Rate (Per Cent.	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Canadian National Railway Company (guaranteed by Dominion of Canada):	5.07	July 1, 1969	200,000 00	197,552 60	....
	5.015	Feb. 1, 1970	40,000 00	39,901 26	832 90
	5.032	Feb. 1, 1970	200,000 00	198,914 02	4,164 45
	5.15	Sept. 1, 1951	38,000 00	35,407 72	566 90
Canadian Northern Railway Company (guaranteed by Dominion of Canada):	4.914	July 1, 1946	100,000 00	116,312 28	....
	4.915	July 1, 1946	10,000 00	11,629 96	....
	4.93	July 1, 1946	18,000 00	20,899 34	....
	4.893	July 1, 1946	10,000 00	11,654 71	....
	4.90	July 1, 1946	50,000 00	58,236 35	....
	4.947	July 1, 1946	37,000 00	42,892 48	....
	5.246	July 1, 1946	65,000 00	73,194 17	....
	5.196	July 1, 1946	469,000 00	530,748 12	....
	4.875	July 1, 1946	100,000 00	116,758 68	....
	5.051	July 1, 1946	200,000 00	229,538 77	....
Dominion of Canada Guaranteed Debenture Stock of the Canadian Northern Ry. Co.:	5.163	July 20, 1958	243,333 00	184,763 28	3,850 05
	4.75	July 20, 1958	16,000 00	12,974 55	253 15
Dominion of Canada Victory Loan	5.50	Nov. 1, 1934	250,000 00	250,000 00	2,260 30
Ontario, Province of:	5.178	Oct. 15, 1948	250,000 00	245,016 12	263 70
	5.88	Feb. 1, 1941	50,000 00	50,440 04	1,257 53
	5.449	Dec. 1, 1950	700,000 00	621,973 24	2,675 30
	5.458	Dec. 1, 1949	300,000 00	267,303 44	1,146 60
	5	Sept. 15, 1943	50,000 00	54,472 35	879 45
	5.371	Dec. 1, 1947	13,000 00	11,794 38	49 70
	4.875	Oct. 15, 1948	50,000 00	50,718 94	520 55
	4.875	Oct. 15, 1948	60,000 00	60,860 04	624 66
	4.871	Oct. 15, 1948	25,000 00	25,369 66	260 27
	4.875	Oct. 15, 1948	50,000 00	50,716 97	520 55
	4.86	Jan. 15, 1956	500,000 00	474,286 68	10,417 80
	4.90	Sept. 15, 1943	185,000 00	203,298 91	3,253 95
	4.80	Dec. 1, 1942	115,000 00	121,814 89	537 20
	4.85	Sept. 15, 1943	9,000 00	9,933 55	158 30
	4.85	Sept. 15, 1943	57,000 00	63,462 52	1,011 35
	4.85	Sept. 15, 1943	30,000 00	33,122 41	527 65
	4.85	Sept. 15, 1943	30,000 00	33,111 75	527 65
	4.75	Sept. 15, 1943	7,000 00	7,793 01	123 10
	5.016	May 1, 1959	250,000 00	249,398 78	2,054 80
	4.375	June 1, 1956	546,000 00	515,408 95	1,795 05
Ontario, Province of (guaranteeing The University of Western Ontario):	5.672	1942–1946	54,000 00	48,241 80	....
			5,377,833 00	5,329,916 72	40,532 91
Total Permanent Investments, Schedule 1...			23,391,736 30	23,125,231 68	267,477 65

TABLE 14—Continued

SCHEDULE 2 FUNDS

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Barton, Township	5.354	July 14, 1952	63,000 00	64,154 68	1,604 34
Belleville:	5.669	1943–1945	3,450 26	3,245 57	....
	5.613	1943–1950	8,000 00	7,499 51	17 55
	5.704	1940–1946	10,488 47	9,868 41	219 80
Brantford	5.42	Dec. 31, 1949	15,000 00	12,572 58	....
Chippawa, Town (guaranteed by County of Welland)	5.525	1941–1944	22,578 30	22,529 62	520 52
Cornwall	5.535	1941–1943	10,248 45	10,215 83	284 13
Etobicoke, Township:	5.485	1941–1955	24,867 79	23,565 95	415 60
	5.07	1941–1956	32,574 89	32,345 98	1,227 13
	5.067	1942–1956	58,470 29	61,331 64	2,422 90
	5.55	1948–1955	43,000 00	40,253 19	453 55
Galt	5.34	Dec. 15, 1965	19,460 45	18,425 50	42 65
Hamilton:	5.697	1942–1946	152,000 00	135,863 49	2,867 18
	5.54	1942–1946	134,000 00	121,533 76	512 15
	5.444	1942–1946	35,000 00	33,589 36	292 47
Hydro-Electric Power Commission (guaranteed by Province of Ontario)	5.45	June 24, 1941	15,000 00	15,602 43	17 25
Kingston	5.453	July 1, 1955	120,000 00	112,842 34	....
Kitchener	5.475	1944–1947	10,418 06	10,967 87	104 45
London:	5.444	Dec. 30, 1954	411,000 00	387,239 17	....
	5.439	1940–1956	280,000 00	268,659 53	76 70
	5.26	1940–1955	101,000 00	98,550 45	....
North Bay:	5.799	1940–1943	33,000 00	32,222 44	1,516 65
Ontario, Province of:	5.528	Oct. 1, 1942	31,000 00	29,670 31	390 68
	5.376	Apr. 1, 1952	19,000 00	18,121 69	239 45
	4.875	Oct. 15, 1948	50,000 00	50,718 35	520 55
Ottawa	5.574	1941–1946	36,000 00	34,285 68	....
Owen Sound	4.95	Apr. 1, 1945	100,000 00	100,494 60	1,246 60
Peterborough	5.514	Dec. 31, 1945	20,000 00	19,010 63	....
Renfrew	5.40	1949–1953	50,234 63	50,847 25	461 73
Stamford, Township	5.458	1941–1954	246,628 19	247,776 94	408 80
Stratford:	5.201	July 1, 1954	82,000 00	83,066 10	2,190 86
	5.611	1940–1956	122,613 19	115,805 82	3,359 25
Thorold	5.50	1940–1959	49,546 82	46,629 92	617 60
Toronto:	6.325	June 1, 1940	4,000 00	3,920 48	20 38
	6.325	June 1, 1942	21,000 00	20,481 57	107 01
	6.254	1937–1940	130,000 00	128,279 83	662 55
	5.557	Dec. 1, 1940	100,000 00	103,104 74	509 59
	5.25	1940–1943	42,000 00	44,291 94	214 03
	5.25	1950 & 1951	50,000 00	48,495 12	630 14
	5.287	1948–1954	172,000 00	155,727 42	1,293 53
	5.269	1948–1954	154,000 00	139,660 12	588 57
	5.572	1947–1954	229,000 00	199,134 40	3,444 40
	5.458	Jan. 1, 1949	5,000 00	4,464 30	....
	5.455	July 1, 1950	4,000 00	3,792 21	....
	5.05	June 1, 1954	50,000 00	49,644 06	205 50
Victoria, County	5.50	1951–1959	17,954 20	16,748 15	39 35
Waterloo, Town	5.68	1941–1947	19,195 72	18,894 58	885 07
York, Township	5.74	1944–1961	214,197 93	196,859 94	3,550 40
Total Permanent Investments, Schedule 2.....			3,621,927 64	3,453,005 45	34,181 06

SHORT DATE DEPOSITS, SCHEDULE 1

Canada Permanent Mortgage Corporation,	
Special Deposit—4½ per cent. withdrawable as required	$500,000 00
Canada Trust Co. (Huron & Erie Mortgage Corporation),	
Short Date Debentures:	
4¾ per cent withdrawable on short notice	300,000 00
5 per cent. " " " "	125,000 00
Total Short Date Deposits, Schedule 1	$925,000 00

CHAPTER V

1930 OPERATIONS

This chapter deals with the year 1930, containing information which was not available when the report for that year was made.

It gives the final financial statement for Schedule 1 industries for the year, estimates of the adjustments of assessments and of the outstanding compensation and medical aid having to be used in the provisional statement given in Table 1 of the 1930 report; and it gives statistical information as to the accidents which happened during 1930, their causes, the nature of the injuries suffered, the number, time loss, total and average cost of the different classes of cases, and the age, wage, nationality, and marital condition of the injured workmen.

This information is contained in Tables 15 to 27.

Final Financial Statement, Schedule 1, 1930

Table 15 gives the final financial statement for Schedule 1 industries for 1930, provisional figures for which were given in Table 1 of the 1930 report. It shows the income and credits and the expenditure and charges and the balance for each class of industry; also the actual assessments and accident cost and other items of income and expenditure for each class, and the assessments and accident cost for each group of industry within the class. The list of industries included in each class and group will be found in the Board's rate book, the list of industries in the different classes is also printed with the Act, and their general nature is indicated at the bottom of Table 1 of this report.

The net income and credits for all the classes for the year were $6,656,588.72, and the net expenditure and charges, $6,362,286.56, leaving a surplus for the year of $294,302.16. Adding the surplus forward from prior years, $1,550,661.35, leaves a net actual surplus of $1,844,963.51, as compared with a provisional or estimated surplus of $1,516,298.61, the disparity being largely due to claims for accidents occurring in 1930 and prior years not being finally disposed of during 1931.

Assessments and Accident Cost

The assessments and accident cost (the latter comprising compensation and medical aid and payments on account of rehabilitation) in Schedule 1 for each year since the commencement of the Act, and the totals to the end of 1930, are as follows:

Year	Assessment	Accident Cost
1915	$1,831,537 52	$1,091,020 43
1916	2,361,463 20	1,880,004 37
1917	2,662,383 29	2,639,560 56
1918	3,303,575 83	3,214,427 57
1919	3,840,949 07	4,474,847 38
1920	5,579,333 45	5,041,947 30
1921	4,594,452 37	4,277,034 67
1922	3,984,594 64	4,323,801 07
1923	3,771,321 09	4,977,331 82
1924	4,524,700 86	4,746,314 60
1925	4,390,854 75	4,438,802 13
1926	5,167,126 64	4,711,970 90
1927	5,465,763 17	5,082,073 61
1928	6,739,696 80	6,083,772 14
1929	7,505,431 10	6,861,274 51
1930	6,396,105 73	5,925,502 17
Totals	$72,119,289 51	$69,769,685 23

Pay Roll and Rates of Assessment

As assessments are in the form of a percentage of pay roll, the average rate paid by employers in Schedule 1 can be determined by dividing the total assessments for the year by the total pay roll. The following table shows the total amount of pay roll and the total assessments and the average rate for $100 pay roll for each year:

Year	Total Pay Roll	Total Assessments	Average Rate per $100
1915	$147,603,000	$1,831,537 52	$1 24
1916	220,840,000	2,361,463 20	1 07
1917	286,903,000	2,662,383 29	93
1918	310,450,000	3,303,575 83	1 06
1919	325,226,000	3,840,949 07	1 18
1920	464,589,000	5,579,333 45	1 20
1921	355,259,000	4,594,452 37	1 29
1922	391,888,000	3,984,594 64	1 02
1923	434,163.000	3,771,321 09	87
1924	386,318,000	4,524,700 86	1 17
1925	390,652,000	4,390,854 75	1 04
1926	424,926,000	5,167,126 64	1 22
1927	455,016,000	5,465,763 17	1 20
1928	504,102,000	6,739,696 80	1 34
1929	559,429,000	7,505,431 10	1 34
1930	472,742,000	6,396,105 73	1 35

Final Accident Figures, 1930

Table 16 shows the number of accidents happening in 1930 (in all industries under the Act) for which payment of compensation or medical aid was made. The total number was 58,343, of which 394 were death cases, 3,147 cases involving some degree of permanent disability, 25,613 temporary disability cases, and 29,189 cases which involved medical aid only. Schedule 2 cases involving medical aid only are not included as in these cases medical aid is furnished directly by the employer.

The complete figures for each year since the commencement of the Act are as follows:

Year	Medical Aid Only	Temporary Disability	Permanent Disability	Death	Totals
1915	*.....	9,311	1,339	296	10,946
1916	*.....	15,993	2,232	373	18,598
1917	†4,267	21,556	2,475	370	28,668
1918	12,822	24,089	2,624	366	39,901
1919	11,769	22,418	2,457	364	37,008
1920	15,566	27,423	2,735	373	46,097
1921	12,141	22,855	2,079	331	37,406
1922	15,913	24,461	2,082	325	42,781
1923	20,125	28,954	2,340	327	51,746
1924	20,811	25,980	2,191	315	49,297
1925	22,444	26,040	2,157	264	50,905
1926	25,330	27,150	2,421	308	55,209
1927	27,852	28,836	2,476	311	59,475
1928	31,688	30,440	2,926	414	65,468
1929	34,582	32,920	3,372	417	71,291
1930	29,189	25,613	3,147	394	58,343
Totals	284,499	394,039	39,053	5,548	723,139

*No medical aid. †Half year only.

Accident Frequencies, Schedule 1

Comparison of accident frequencies can be made by correlating the number of accidents with the total number of full-year workers, data for this being available, however, only in Schedule 1. Eliminating accidents in which medical aid only was paid, the number of accidents for each 100 full-year workers for the different years are:

Year	Temporary Disability	Permanent Disability	Death	Totals
1915	3.63	.58	.12	4.32
1916	4.99	.79	.10	5.88
1917	5.78	.72	.07	6.57
1918	5.81	.66	.07	6.54
1919	5.81	.68	.07	6.56
1920	6.23	.67	.07	6.97
1921	6.25	.60	.05	6.90
1922	5.82	.52	.06	6.40
1923	6.02	.51	.05	6.58
1924	6.08	.54	.06	6.68
1925	5.94	.51	.05	6.50
1926	5.84	.54	.05	6.43
1927	5.94	.53	.05	6.52
1928	5.85	.58	.07	6.50
1929	5.80	.61	.06	6.47
1930	5.08	.66	.07	5.81

On the same basis of calculation, the frequency of medical aid only cases has been: 1918, 3.66; 1919, 3.70; 1920, 4.26; 1921, 4.24; 1922, 4.67; 1923, 4.96; 1924, 5.84; 1925, 6.09; 1926, 6.37; 1927, 6.73; 1928, 7.09; 1929, 7.06; and 1930, 6.84.

Statistical Distributions

Tables 17 to 27 give statistical details regarding accidents and workmen, including, where the data is available, Schedule 2 and Crown cases as well as Schedule 1. Considerations of space preclude more extensive tabulations, but the original material is retained and still fuller information is always available concerning the accidents in any of the different classes of industry.

Month of Occurrence

Table 17 gives the month of occurrence of all accidents. The month in which the greatest number occurred during 1930 was May, with 5,547, and the month with the lowest number was December, with 3,751.

Accidents According to Locality

The distribution of accidents according to the county or district in which they occurred is contained in Table 18. York had the highest number with 15,879, and next in order were Temiskaming, with 4,637; Welland, with 3,797; Wentworth, with 3,678; and Essex, with 2,593. The greatest number of deaths (56) were in York; there were 46 in Temiskaming; 29 in Sudbury; 22 in Wentworth; and 20 in Welland.

Time Loss, Age and Wage

In Table 19 is given the average age and wage of workmen receiving compensation, and the total and average time loss for each class of industry and for each category of disability. The average age for 1930 was 34.74 years. The average wage for 1930 was $23.23, as compared with $23.85 for 1929, and $23.65 for 1928. The total time loss in temporary disability cases was 566,750 days, or an average of 22.13 days, as compared with an average of 21.07 days in 1929, and 21.01 days in 1928.

Compensation and Medical Aid Costs, Schedule 1

Table 20 contains the total and average cost of compensation and medical aid by classes in Schedule 1 for each kind of disability.

The total cost of all accidents was $5,925,502.17, of which $4,678,678.58 was for compensation (including payments for rehabilitation), and $1,246,823.59 was for medical aid.

Of the $4,678,678.58 compensation cost, $1,188,012.29 was for temporary disability cases, $2,512,537.25 was for permanent disability cases, and $978,129.04 was for death cases.

The average cost of temporary disability cases was $83.38, of which $55.09 was for compensation and $28.29 was for medical aid, the average in 1929 being $96.51, and in 1928, $97.18.

The average cost of permanent disability cases was $1,064.88, of which $265.49 was for temporary disability, $637.00 was for permanent disability, and $162.39 was for medical aid.

The average cost of death cases, where there were dependents, was $4,375.88, and the average cost of all death cases was $3,407.37, of which $16.64 was for temporary disability, $116.52 for burial expenses, $69.05 for medical aid, and $3,205.16 for death benefits.

The average cost of all cases in which compensation was paid was $233.80, of which $189.88 was for compensation and $43.92 for medical aid, as compared with $210.63 for 1929, and $203.46 for 1928.

The average cost of medical aid in medical aid only cases was $5.67, as compared with $5.70 in 1929, and $5.54 in 1928.

Allegiance of Injured

Table 21 shows the allegiance of injured workers who received compensation as taken from their own reports. There were 23,946, or over 82 per cent., of British allegiance, and 5,208 of foreign allegiance. Among the aliens the most numerous were Poles, Czechs, Finns, Italians and Russians.

Sex and Marital Condition of Injured

Table 22 gives the sex and marital condition of those receiving compensation. There were 28,837 males and 317 females. Of the males, 17,681 were married, and 50 of the females. There were 465 widowers and 35 widows.

Duration of Disability

Table 23 shows the week of termination of temporary disability cases. In nearly 45 per cent. of the cases the disability terminated in from one to two weeks. In 7 cases the disability lasted more than a year.

Nature of Injuries

The first part of Table 24 shows the number of various kinds of temporary disability injuries in the different classes of industry, the second part gives an analysis of the permanent disability cases, showing the number of injuries to the several parts of the body and the percentages of impairment of earning capacity, and the third part of the table shows the number and nature of the industrial disease cases.

During 1930 there were 8,752 cuts, lacerations, and punctures; 6,657 bruises, contusions, and abrasions; 3,364 fractures; 2,259 sprains, strains, twistings, and wrenchings; 1,918 crushes; 1,079 scalds and burns; 920 injuries to eyes; 197 dislocations; and 211 herniae, among the temporary disabilities.

Among the 3,147 permanent disabilities were 22 permanent total disability cases and 366 cases exceeded 10 per cent. of working capacity.

There were 76 industrial disease cases, of which 2 involved medical aid only, 27 were temporary disability cases, 40 were permanent disability cases, and 7 were death cases. Included in these totals are 29 cases of lead poisoning, 41 cases of silicosis, 4 cases of caisson disease, and 2 cases of benzol poisoning.

Causes of Accidents

Table 25 gives the prime causes of accidents in 1930. Machinery was responsible for 11,724 out of a total of 58,343, or 20.10 per cent. of all cases, as compared with 19.56 per cent. in 1929, and 20.70 per cent. in 1928.

Blood-Poisoning Cases

The number of compensation cases in which the seriousness of the accident was due to concurrent or subsequent infection rather than to the nature of the wound is shown in Table 26. There were 1,825 such cases, or 6.4 per cent. of all cases compensated, including 36 cases of permanent disability and 4 deaths.

Death Cases

The nature of awards, the number, relationship, and residence of the dependants, are shown in Table 27.

TABLE 15

FINAL FINANCIAL STATEMENT FOR 1930, SCHEDULE 1

BY CLASSES

Class	Income and Credits	Expenditure and Charges	Balance for 1930	Balance forward Prior Years	Balance at Dec. 31, 1930	Class
	$ c.	$ c.	$ c.	$ c.	$ c.	
1	605,064 80	615,876 09	—10,811 29	—149,290 27	—160,101 56	1
2	299,435 24	289,496 73	9,938 51	76,478 49	86,417 00	2
3	103,678 26	95,536 08	8,142 18	—18,052 03	—9,909 85	3
4	181,813 80	154,845 91	26,967 89	9,438 23	36,406 12	4
5	805,406 68	**687,731 48	117,675 20	535,968 93	653,644 13	5
6	238,333 35	231,132 09	7,201 26	157,345 39	164,546 65	6
7	84,576 88	94,024 85	—9,447 97	141,268 29	131,820 32	7
8	127,038 29	126,447 67	590 62	26,966 86	27,557 48	8
9	370,904 24	301,594 48	69,309 76	74,717 14	144,026 90	9
10	292,413 46	282,809 34	9,604 12	90,996 14	100,600 26	10
11	357,009 60	332,977 30	24,032 30	5,855 97	29,888 27	11
12	202,483 02	207,198 39	—4,715 37	72,279 36	67,563 99	12
13	89,392 50	63,038 31	26,354 19	—9,263 73	17,090 46	13
14	60,911 88	54,935 77	5,976 11	—2,722 64	3,253 47	14
15	279,038 76	266,002 32	13,036 44	28,167 29	41,203 73	15
16	106,562 22	102,864 44	3,697 78	43,737 03	47,434 81	16
17	97,811 57	86,954 29	10,857 28	74,579 61	85,436 89	17
18	69,490 50	69,681 52	—191 02	24,656 38	24,465 36	18
19	110,782 05	106,631 63	4,150 42	25,868 21	30.018 63	19
20	278,335 36	245,363 64	32,971 72	7,979 37	40,951 09	20
21	446,460 69	431,940 09	14,520 60	21,819 75	36,340 35	21
22	103,473 98	116,606 31	—13,132 33	17,133 83	4,001 50	22
23	417,178 83	393,943 57	23,235 26	247,460 74	270,696 00	23
24	928,992 76	1,004,654 26	—75,661 50	47,273 01	—28,388 49	24
	†6,656,588 72	*6,362,286 56	294,302 16	1,550,661 35	1,844,963 51	

†Includes $15,686.78 reimbursement from D.P. & N.H.
*Includes $3,884.07 for Rehabilitation.
**Includes $24,973.15 for Mine Rescue Work.

TABLE 15—Continued

BY GROUPS

Assessments and Compensation			Other Credits and Charges			
Group and Class	Assessments	Compensation and Medical Aid	Interest, Secs. 8, 105, 112 (3), etc.	Administration Expenses and Safety Assns.	Balance Forward Prior Years	Balance at December 31, 1930
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Group 010	297,417 76	266,929 14				
“ 011	179,583 13	111,996 78				
“ 012	119,483 65	187,175 99				
Class 1	596,484 54	566,101 91	8,580 26	49,774 18	—149,290 27	—160,101 56
Group 020	172,550 28	163,988 51				
“ 021	12,106 80	12,401 62				
“ 022	99,813 52	90,611 54				
Class 2	284,470 60	267,001 67	14,964 64	22,495 06	76,478 49	86,417 00
Group 030	64,526 29	59,686 32				
“ 031	15,077 16	14,392 88				
“ 032	7,182 63	2,565 79				
“ 033	14,735 66	10,926 64				
Class 3	101,521 74	87,571 63	2,156 52	7,964 45	—18,052 03	—9,909 85
Group 040	101,343 51	83,165 19				
“ 041	29,643 03	20,809 68				
“ 042	12,589 97	9,308 01				
“ 043	6,913 61	6,993 53				
“ 044	24,249 25	20,695 17				
Class 4	174,739 37	140,971 58	7,074 43	13,874 33	9,438 23	36,406 12
Group 050	28,757 36	25,646 51				
“ 051	396,347 47	344,709 99				
“ 052	225,405 87	161,529 40				
“ 053	28,336 06	28,704 51				
“ 054	—2 40	....				
“ 055	42,849 99	15,940 50				
“ 056	39,273 88	67,000 01				
“ 057	2,463 40	—4,535 34				
Class 5	763,431 63	638,995 58	41,975 05	48,735 90	535,968 93	653,644 13
Group 060	25,374 92	28,415 44				
“ 061	40,256 84	37,209 20				
“ 062	18,103 62	5,934 72				
“ 063	28,609 46	41,299 67				
“ 064	14,408 02	15,796 37				
“ 065	71,160 48	55,224 11				
“ 066	25,116 96	30,625 18				
Class 6	223,030 30	214,504 69	15,303 05	16,627 40	157,345 39	164,546 65
Group 070	47,555 17	46,103 77				
“ 071	27,056 17	40,499 80				
Class 7	74,611 34	86,603 57	9,965 54	7,421 28	141,268 29	131,820 32
Group 080	49,531 45	48,117 00				
“ 081	14,994 01	11,398 61				
“ 082	43,599 14	48,163 54				
“ 083	13,667 29	10,305 47				
Class 8	121,791 89	117,984 62	5,246 40	8,463 05	26,966 86	27,557 48

TABLE 15—Continued
BY GROUPS

Assessments and Compensation			Other Credits and Charges			
Group and Class	Assessments	Compensation and Medical Aid	Interest, Secs. 8, 105, 112 (3), etc.	Administration Expenses and Safety Assns.	Balance Forward Prior Years	Balance at December 31, 1930
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Group 090	53,715 48	26,461 78				
“ 091	23,225 53	15,333 67				
“ 092	29,530 95	27,929 79				
“ 093	20,505 58	6,845 53				
“ 094	208,352 54	160,673 70				
“ 095	20,332 37	27,482 75				
Class 9	355,662 45	264,727 22	15,241 79	36,867 26	74,717 14	144,026 90
Group 100	42,143 94	31,118 21				
“ 101	91,630 49	91,826 86				
“ 102	36,567 15	36,732 90				
“ 103	29,516 19	28,072 61				
“ 104	38,040 46	37,352 90				
“ 105	14,417 56	8,813 55				
“ 106	19,250 54	14,162 56				
“ 107	8,068 17	13,832 68				
Class 10	279,634 50	261,912 27	12,778 96	20,897 07	90,996 14	100,600 26
Group 110	64,795 23	61,271 15				
“ 111	206,419 57	199,142 09				
“ 112	28,633 15	27,962 71				
“ 113	47,544 33	18,745 95				
Class 11	347,392 28	307,121 90	9,617 32	25,855 40	5,855 97	29,888 27
Group 120	84,778 49	89,523 90				
“ 121	56,505 45	63,265 35				
“ 122	27,467 41	22,239 60				
“ 123	10,230 61	9,615 42				
“ 124	17,054 37	12,570 17				
Class 12	196,036 33	197,214 44	6,446 69	9,983 95	72,279 36	67,563 99
Group 130	59,041 72	45,695 08				
“ 131	25,746 50	12,693 41				
Class 13	84,788 22	58,388 49	4,604 28	4,649 82	—9,263 73	17,090 46
Group 140	59,250 38	51,020 02				
Class 14	59,250 38	51,020 02	1,661 50	3,915 75	—2,722 64	3,253 47
Group 150	70,908 03	59,833 21				
“ 151	65,223 78	64,933 04				
“ 152	25,467 85	18,212 36				
“ 153	37,114 93	35,558 80				
“ 154	25,336 68	23,367 18				
“ 155	42,874 09	42,965 60				
“ 156	2,417 00	1,585 03				
Class 15	269,342 36	246,455 22	9,696 40	19,547 10	28,167 29	41,203 73
Group 160	25,147 22	22,852 87				
“ 161	9,646 33	5,953 08				
“ 162	7,188 52	9,529 54				
“ 163	34,465 24	37,839 44				
“ 164	22,277 65	18,091 44				
Class 16	98,724 96	94,266 37	7,837 26	8,598 07	43,737 03	47,434 81

TABLE 15—Continued

BY GROUPS

Assessments and Compensation			Other Credits and Charges			
Group and Class	Assessments	Compensation and Medical Aid	Interest, Secs. 8, 105, 112 (3), etc.	Administration Expenses and Safety Assns.	Balance Forward Prior Years	Balance at December 31, 1929
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Group 170	47,743 72	48,303 76				
" 171	31,040 35	24,045 26				
" 172	12,775 44	9,634 84				
Class 17	91,559 51	81,983 86	6,252 06	4,970 43	74,579 61	85,436 89
Group 180	42,341 64	48,421 25				
" 181	24,040 56	15,822 80				
Class 18	66,382 20	64,244 05	3,108 30	5,437 47	24,656 38	24,465 36
Group 190	30,619 09	29,227 66				
" 191	56,608 37	58,198 31				
" 192	11,867 38	11,079 19				
" 193	9,999 56	3,426 77				
Class 19	109,094 40	101,931 93	1,687 65	4,699 70	25,868 21	30,018 63
Group 200	196,130 13	168,934 67				
" 201	72,738 49	64,337 17				
Class 20	268,868 62	233,271 84	9,466 74	12,091 80	7,979 37	40,951 09
Group 210	249,953 06	257,091 95				
" 211	182,983 24	159,170 44				
Class 21	432,936 30	416,262 39	13,524 39	15,677 70	21,819 75	36,340 35
Group 220	99,691 38	104,013 31				
Class 22	99,691 38	104,013 31	3,782 60	12,593 00	17,133 83	4,001 50
Group 230	110,024 00	98,412 90				
" 231	233,720 21	226,139 49				
" 232	53,528 07	53,584 46				
Class 23	397,272 28	378,136 85	19,906 55	15,806 72	247,460 74	270,696 00
Group 240	66,178 67	53,067 32				
" 241	31,065 63	33,028 79				
" 242	60,110 67	65,319 11				
" 243	20,041 43	25,865 96				
" 244	62,646 76	97,881 43				
" 245	69,017 95	73,505 23				
" 246	45,391 10	50,902 29				
" 247	30,871 31	26,680 75				
" 248	506,397 00	513,702 67				
" 249	7,667 63	4,863 21				
Class 24	899,388 15	944,816 76	29,604 61	59,837 50	47,273 01	—28,388 49
Schedule 1	6,396,105 73	*5,925,502 17	†260,482 99	**436,784 39	1,550,661 35	1,844,963 51

†Includes $15,686.78 reimbursement from D.P. & N.H.
*Includes $3,884.07 for Rehabilitation.
**Includes $24,973.15 for Mine Rescue Work.

TABLE 16

NUMBER OF ACCIDENTS IN 1930 INVOLVING PAYMENT

Class	Medical Aid Only	Temporary Disability	Permanent Disability	Death	TOTALS
1	569	2,319	293	30	3,211
2	1,245	1,109	115	18	2,487
3	590	435	81	2	1,108
4	798	628	128	4	1,558
5	1,518	1,699	303	49	3,569
6	678	571	88	9	1,346
7	319	171	41	7	538
8	1,166	598	63	3	1,830
9	2,813	1,085	124	11	4,033
10	3,035	1,138	183	6	4,362
11	1,801	978	167	13	2,959
12	881	735	83	11	1,710
13	252	226	38	2	518
14	384	177	20	2	583
15	1,729	1,242	132	8	3,111
16	653	346	62	3	1,064
17	667	394	58	1	1,120
18	663	477	26	1	1,167
19	546	375	57	1	979
20	550	1,031	96	7	1,684
21	1,472	1,382	169	19	3,042
22	191	187	24	8	410
23	2,166	898	110	40	3,214
24	4,335	3,362	323	38	8,058
Schedule 2	2	2,208	183	49	2,442
Crown Cases	166	1,842	180	52	2,240
TOTALS	29,189	25,613	3,147	394	58,343

TABLE 17

MONTH OF OCCURRENCE OF ACCIDENTS, 1930

Month of Occurrence	Medical Aid Only	Temporary Disability	Permanent Disability	Death	TOTALS
January	2,410	2,543	267	19	5,239
February	2,242	2,200	255	31	4,728
March	2,483	2,065	261	33	4,842
April	2,527	1,755	250	20	4,552
May	2,906	2,319	279	43	5,547
June	2,759	2,256	269	64	5,348
July	2,809	2,338	248	45	5,440
August	2,556	2,195	251	35	5,037
September	2,505	2,109	256	31	4,901
October	2,346	2,167	286	26	4,825
November	1,958	1,871	280	24	4,133
December	1,688	1,795	245	23	3,751
TOTALS	29,189	25,613	3,147	394	58,343

TABLE 18

LOCALITY OF ACCIDENTS, 1930

County or District	Medical Aid Only	Temporary Disability	Permanent Disability	Death	TOTALS
Algoma	424	928	126	13	1,491
Brant	511	355	45	6	917
Bruce	40	97	16	3	156
Carleton	990	1,008	122	17	2,137
Dufferin	17	22	3	1	43
Dundas	17	38	2	..	57
Durham	100	59	10	2	171
Elgin	79	154	19	4	256
Essex	1,650	799	130	14	2,593
Frontenac	632	358	48	7	1,045
Glengarry	45	37	2	1	85
Grenville	578	198	9	3	788
Grey	295	240	37	4	576
Haldimand	171	134	14	1	320
Haliburton	17	19	6	..	42
Halton	104	132	17	1	254
Hastings	381	501	52	7	941
Huron	48	92	10	2	152
Kenora	108	312	34	12	466
Kent	298	198	24	2	522
Lambton	333	364	52	10	759
Lanark	62	145	13	2	222
Leeds	190	178	27	18	413
Lennox-Addington	26	33	8	..	67
Lincoln	762	457	69	8	1,296
Manitoulin	6	17	..	1	24
Middlesex	555	700	70	13	1,338
Muskoka	75	120	17	3	215
Nipissing	113	418	45	1	577
Norfolk	186	76	12	1	275
Northumberland	35	41	7	1	84
Ontario	432	267	39	5	743
Oxford	289	166	21	1	477
Parry Sound	66	191	19	1	277
Patricia	12	49	4	1	66
Peel	81	111	11	1	204
Perth	209	249	23	2	483
Peterborough	365	300	45	2	712
Prescott	73	59	5	2	139
Prince Edward	17	26	6	..	49
Rainy River	143	246	24	5	418
Renfrew	246	277	40	5	568
Russell	34	57	3	..	94
Simcoe	625	509	50	6	1,190
Stormont	131	101	13	2	247
Sudbury	380	1,168	171	29	1,748
Temiskaming	2,105	2,180	306	46	4,637
Thunder Bay	483	1,033	109	17	1,642
Victoria	105	134	22	2	263
Waterloo	1,242	623	88	7	1,960
Welland	2,613	1,011	153	20	3,797
Wellington	314	345	36	2	697
Wentworth	2,006	1,457	193	22	3,678
York	8,363	6,749	711	56	15,879
Not in Ontario	7	75	9	2	93
TOTALS	29,189	25,613	3,147	394	58,343

TABLE 19

TIME LOSS, AVERAGE AGE, AND AVERAGE WAGE, 1930

Class	TIME LOSS*						AGE	WAGE
	Temporary Disability		Permanent Disability		Death Cases		All Cases	All Cases
	Total Days	Average Days	Total Days	Average Days	Total Days	Average Days	Average Age (Years)	Average Weekly Wage
								$ c.
1	61,562	26.55	36,262	123.76	330	11.00	33.12	17.17
2	23,666	21.34	11,408	99.20	70	3.89	34.88	21.73
3	7,366	16.93	4,197	51.81	23	11.50	35.08	20.29
4	12,290	19.57	7,884	61.59	0	0	36.60	19.54
5	38,889	22.89	26,795	88.43	441	9.00	32.37	28.59
6	12,860	22.52	8,455	96.08	196	21.78	34.61	22.83
7	4,508	26.36	3,339	81.44	7	1.00	36.73	27.23
8	12,441	20.80	5,178	82.19	169	56.33	35.19	21.72
9	21,457	19.78	11,488	92.65	40	3.64	36.31	23.14
10	21,104	18.54	11,602	63.40	0	0	32.30	21.46
11	17,945	18.35	14,217	85.13	68	5.23	32.22	26.41
12	14,970	20.37	9,095	109.58	9	.82	34.93	24.12
13	4,734	20.95	3,772	99.26	0	0	39.10	23.03
14	3,491	19.72	2,435	121.75	10	5.00	33.27	20.96
15	25,567	20.59	12,868	97.48	23	2.88	32.73	21.67
16	6,751	19.51	4,137	66.73	113	37.67	32.79	20.56
17	6,999	17.76	5,644	97.31	20	20.00	33.22	17.78
18	7,876	16.51	3,652	140.46	7	7.00	29.24	20.14
19	6,537	17.43	3,913	68.65	2	2.00	28.71	20.22
20	23,678	22.97	11,796	122.88	130	18.57	35.86	22.55
21	31,449	22.76	18,380	108.76	8	.42	34.83	23.42
22	4,625	24.73	3,658	152.42	139	17.38	33.95	25.26
23	20,871	23.24	15,318	139.25	0	0	33.39	26.08
24	78,296	23.29	44,965	139.21	90	2.37	34.71	25.24
Schedule 2	52,430	23.75	25,100	137.16	252	5.14	38.67	25.14
Crown...	44,388	24.10	21,726	120.70	828	15.92	39.46	25.17
ALL.....	566,750	22.13	327,284	104.00	2,975	7.55	34.74	23.23

*This does not include loss of man power by permanent impairment or death.

TABLE 20

TOTAL AND AVERAGE COMPENSATION AND MEDICAL AID COSTS, 1930, SCHEDULE 1, BY CLASSES

Compensation Costs

Class	Temporary Disability Cases		Permanent Disability Cases				Death Cases						ALL CASES	
	For Temporary Disability		For Temporary Disability		For Permanent Disability		For Temporary Disability		For Death Benefits		For Funeral Expenses			
	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	117,276 12	50 57	74,863 64	255 51	149,260 00	509 42	667 70	22 26	79,813 00	2,660 43	3,479 20	115 97	425,359 66	161 00
2	38,880 58	35 06	29,684 33	258 12	87,972 00	764 97	152 08	8 45	43,263 00	2,403 50	1,959 85	108 88	201,911 84	162 57
3	19,161 36	44 05	10,158 33	125 41	33,499 00	413 57	47 91	23 96	7,187 00	3,593 50	250 00	125 00	70,303 60	135 72
4	12,112 81	19 29	18,007 14	140 68	75,182 00	587 36	0	0	6,656 00	1,664 00	500 00	125 00	112,457 95	147 97
5	38,709 68	22 78	75,813 91	250 21	290,670 00	959 31	987 74	20 16	128,147 00	2,615 24	6,119 00	124 88	540,447 33	263 50
6	72,654 14	127 24	21,130 94	240 12	54,524 00	619 59	665 81	73 98	27,454 00	3,050 44	1,000 00	111 11	177,428 89	265 61
7	7,271 97	42 53	9,838 32	239 96	18,776 00	457 95	15 94	2 28	36,121 00	5,160 14	875 00	125 00	72,898 23	332 87
8	41,394 07	69 22	12,631 42	200 50	21,760 00	345 40	556 25	185 42	10,276 00	3,425 33	375 00	125 00	86,992 74	131 01
9	28,079 01	25 88	30,119 62	242 90	82,829 00	667 98	119 41	10 86	61,052 00	5,550 18	1,375 00	125 00	203,574 04	166 86
10	53,457 81	46 98	29,010 52	158 53	93,395 00	510 36	0	0	25,403 00	4,233 83	750 00	125 00	202,016 33	152 24
11	45,114 21	46 13	40,454 91	242 24	99,857 00	597 95	178 45	13 73	61,411 00	4,723 92	1,625 00	125 00	248,640 57	214 72
12	35,332 87	48 07	24,466 50	294 78	41,545 00	500 54	43 26	3 93	47,690 00	4,335 45	1,375 00	125 00	150,452 63	181 49
13	10,251 68	45 36	10,163 26	267 45	19,976 00	525 68	0	0	6,108 00	3,054 00	250 00	125 00	46,748 94	175 75
14	8,850 17	50 00	6,218 65	310 93	11,330 00	566 50	35 20	17 60	12,220 00	6,110 00	250 00	125 00	38,904 02	195 50
15	50,416 10	40 59	31,457 68	238 32	56,039 00	424 54	65 99	8 25	45,034 00	5,629 25	1,000 00	125 00	184,012 77	133 15
16	33,561 44	97 00	9,279 30	149 67	26,084 00	420 71	373 38	124 46	6,185 00	2,061 67	375 00	125 00	75,858 12	184 57
17	10,830 88	27 49	13,358 10	230 31	37,413 00	645 05	24 43	24 43	0	0	125 00	125 00	61,751 41	136 32
18	13,270 68	27 82	9,892 56	380 48	20,570 00	791 15	9 75	9 75	1,000 00	1,000 00	125 00	125 00	44,867 99	89 02
19	15,764 70	42 04	11,108 93	194 89	51,021 00	895 11	8 55	8 55	6,043 00	6,043 00	125 00	125 00	84,071 18	194 16
20	65,562 01	63 59	28,957 91	301 64	67,156 00	699 54	361 18	51 60	20,742 00	2,963 14	858 25	122 61	183,637 35	161 94
21	98,654 07	71 39	53,118 16	314 31	123,792 00	732 50	14 58	77	57,989 00	3,052 05	2,355 00	123 95	335,922 81	213 96
22	18,123 73	96 92	9,721 91	405 08	20,761 00	865 04	291 90	36 49	35,320 00	4,415 00	1,000 00	125 00	85,218 54	389 13
23	71,239 23	79 33	47,773 69	434 31	78,529 00	713 90	0	0	100,112 00	2,502 80	3,245 00	81 13	300,898 92	287 12
24	282,042 97	83 89	131,888 52	408 32	211,479 00	654 73	257 23	6 77	113,885 00	2,996 97	4,750 00	125 00	744,302 72	199 92
ALL	1,188,012 29	55 09	739,118 25	265 49	1,773,419 00	637 00	4,876 74	16 64	939,111 00	3,205 16	34,141 30	116 52	4,678,678 58	189 88

TABLE 20—Continued

Medical Aid Costs

Class	When Medical Aid Only		In Temporary Disability Cases		In Permanent Disability Cases		In Death Cases		FOR ALL CASES	
	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	3,804 75	6 69	79,370 34	34 23	55,906 31	190 81	1,660 85	55 36	140,742 25	43 83
2	6,784 15	5 45	36,483 94	32 90	20,920 74	181 92	901 00	50 06	65,089 83	26 17
3	3,231 55	5 48	8,305 63	19 09	5,244 75	64 75	486 10	243 05	17,268 03	15 58
4	4,607 85	5 77	13,393 02	21 33	10,408 76	81 32	104 00	26 00	28,513 63	18 30
5	8,828 20	5 82	41,795 28	24 60	45,159 27	109 04	2,765 50	56 44	98,548 25	27 61
6	4,249 30	6 27	19,791 16	34 66	11,871 84	134 91	1,163 50	129 28	37,075 80	27 55
7	2,375 85	7 45	6,137 35	35 89	4,760 74	116 12	431 40	61 63	13,705 34	25 47
8	5,801 70	4 98	18,751 28	31 36	6,304 90	100 08	134 00	44 67	30,991 88	16 94
9	15,235 10	5 42	24,631 12	22 70	20,432 96	164 78	854 00	77 64	61,153 18	15 16
10	15,392 95	5 07	24,512 03	21 54	19,547 96	106 82	443 00	73 83	59,895 94	13 73
11	10,868 80	6 03	26,124 16	26 71	20,416 97	122 26	1,071 40	82 41	58,481 33	19 76
12	5,828 85	6 62	19,980 24	27 18	20,400 72	245 79	552 00	50 18	46,761 81	27 35
13	1,466 25	5 82	5,099 08	22 56	4,724 22	124 32	350 00	175 00	11,639 55	22 47
14	2,733 75	7 12	5,184 25	29 29	4,006 00	200 30	192 00	96 00	12,116 00	20 78
15	11,229 30	6 49	27,902 27	22 47	22,769 68	172 50	541 20	67 65	62,442 45	20 07
16	3,761 10	5 76	8,452 01	24 43	5,133 64	82 80	1,061 50	353 83	18,408 25	17 30
17	3,638 85	5 46	6,635 40	16 84	9,678 50	166 87	279 70	279 70	20,232 45	18 06
18	4,189 50	6 32	6,948 07	14 57	8,140 49	313 10	98 00	98 00	19,376 06	16 60
19	3,718 90	6 81	6,928 87	18 48	7,017 48	123 11	195 50	195 50	17,860 75	18 24
20	3,620 15	6 58	26,637 47	25 84	16,787 77	174 87	2,589 10	369 87	49,634 49	29 47
21	8,507 20	5 78	41,382 06	29 94	29,510 57	174 62	939 75	49 46	80,339 58	26 41
22	1,110 55	5 81	9,878 63	52 83	7,083 79	295 16	721 80	90 22	18,794 77	45 84
23	10,473 40	4 84	41,669 85	46 40	24,702 93	224 57	391 75	9 79	77,237 93	24 03
24	23,067 20	5 32	103,982 26	30 93	71,161 12	220 31	2,303 46	60 62	200,514 04	24 88
ALL	164,525 20	5 67	609,975 77	28 29	452,092 11	162 39	20,230 51	69 05	1,246,823 59	23 24

TABLE 21

ALLEGIANCE OF INJURED WORKERS, 1930

Allegiance to	Temporary Disability	Permanent Disability	Death	TOTALS
Albania	17			17
Argentine	16			16
Austria	268	37	6	311
Belgium	23	2		25
Brazil		1		1
Bulgaria	68	8		76
Chile	12	4		16
China	12	2		14
Czecho-Slovakia	628	87	16	731
Denmark	52	9	1	62
Esthonia	5			5
Finland	596	93	14	703
France	108	15	1	124
Germany	138	13	1	152
Great Britain	21,028	2,611	307	23,946
Greece	17	2		19
Holland	16	1		17
Italy	533	67	5	605
Jugo-Slavia	381	41	8	430
Latvia	1			1
Lithuania	8			8
Mexico	5			5
Norway	23		2	25
Persia	15	1		16
Poland	701	58	9	768
Portugal	6			6
Roumania	98	14	7	119
Russia	520	41	10	571
Spain	9			9
Sweden	175	17	2	194
Switzerland	4		1	5
Turkey	12			12
United States	118	23	4	145
TOTALS	25,613	3,147	394	29,154

TABLE 22

SEX AND MARITAL CONDITION OF INJURED WORKERS, 1930

Sex and Marital Condition	Temporary Disability	Permanent Disability	Death	TOTALS
Males—				
Married	15,301	2,122	258	17,681
Single	9,345	904	97	10,346
Widowed	405	56	4	465
Not specified	290	20	35	345
Totals	25,341	3,102	394	28,837
Females—				
Married	44	6	....	50
Single	193	35	....	228
Widowed	31	4	....	35
Not specified	4	....	....	4
Totals	272	45	....	317
GRAND TOTALS	25,613	3,147	394	29,154

TABLE 23

WEEK OF TERMINATION OF TEMPORARY DISABILITIES, 1930

In	11,474	cases	the	disability	terminated in	1	to	2	weeks	after the accident.
"	4,797	"	"	"	"	2	"	3	"	"
"	2,759	"	"	"	"	3	"	4	"	"
"	1,810	"	"	"	"	4	"	5	"	"
"	1,151	"	"	"	"	5	"	6	"	"
"	827	"	"	"	"	6	"	7	"	"
"	598	"	"	"	"	7	"	8	"	"
"	462	"	"	"	"	8	"	9	"	"
"	316	"	"	"	"	9	"	10	"	"
"	259	"	"	"	"	10	"	11	"	"
"	208	"	"	"	"	11	"	12	"	"
"	172	"	"	"	"	12	"	13	"	"
"	125	"	"	"	"	13	"	14	"	"
"	91	"	"	"	"	14	"	15	"	"
"	70	"	"	"	"	15	"	16	"	"
"	66	"	"	"	"	16	"	17	"	"
"	69	"	"	"	"	17	"	18	"	"
"	50	"	"	"	"	18	"	19	"	"
"	42	"	"	"	"	19	"	20	"	"
"	21	"	"	"	"	20	"	21	"	"
"	27	"	"	"	"	21	"	22	"	"
"	18	"	"	"	"	22	"	23	"	"
"	17	"	"	"	"	23	"	24	"	"
"	17	"	"	"	"	24	"	25	"	"
"	13	"	"	"	"	25	"	26	"	"
"	17	"	"	"	"	26	"	27	"	"
"	12	"	"	"	"	27	"	28	"	"
"	13	"	"	"	"	28	"	29	"	"
"	10	"	"	"	"	29	"	30	"	"
"	9	"	"	"	"	30	"	31	"	"
"	7	"	"	"	"	31	"	32	"	"
"	17	"	"	"	"	32	"	33	"	"
"	5	"	"	"	"	33	"	34	"	"
"	3	"	"	"	"	34	"	35	"	"
"	54	"	"	"	"	36	"	52	"	"
"	7	"	"	"	did not terminate in			52	"	"
	25,613	TOTAL CASES								

TABLE 24

NATURE OF INJURIES, 1930

Temporary Disability Cases

Class	Bruises, Contusions and Abrasions	Cuts, Lacerations, and Punctures	Fractures	Crushes	Sprains, Strains, Twistings, and Wrenchings	Scalds and Burns	Eye Injuries	Herniae	Internal Injuries	Concussions (brain, spine, etc.)	Dislocations	All Other Injuries	Industrial Diseases (Schedule 3)	TOTALS
1......	642	782	294	233	223	20	43	18	5	1	26	32	....	2,319
2......	322	389	125	71	98	39	24	13	1	1	7	19	....	1,109
3......	72	261	24	21	26	13	12	2	....	....	2	2	....	435
4......	117	321	70	44	34	13	19	3	....	1	5	1	....	628
5......	432	573	230	124	138	65	104	13	....	1	14	3	2	1,699
6......	153	166	90	62	46	10	29	3	2	5	2	2	1	571
7......	59	43	29	10	7	15	8	....	....	....	....	....	....	171
8......	120	165	76	52	27	110	31	2	....	3	2	....	10	598
9......	263	372	168	97	55	67	49	7	....	2	4	....	1	1,085
10......	189	509	125	95	48	81	70	11	....	....	6	2	2	1,138
11......	226	345	126	77	64	44	78	8	1	....	7	1	1	978
12......	199	189	113	53	51	67	32	11	2	3	9	6	....	735
13......	64	71	36	12	27	5	7	2	1	....	1	....	....	226
14......	39	80	15	6	10	16	5	1	2	....	3	....	....	177
15......	290	466	151	82	109	88	19	17	2	4	8	6	....	1,242
16......	77	148	39	27	16	23	9	2	....	1	2	2	....	346
17......	82	175	34	28	27	20	18	4	1	....	4	1	....	394
18......	77	289	29	14	33	18	6	4	2	1	3	1	....	477
19......	78	167	43	45	19	6	7	3	....	....	4	2	1	375
20......	296	315	171	69	117	17	17	11	2	3	9	3	1	1,031
21......	395	426	194	102	126	53	39	16	2	3	11	14	1	1,382
22......	50	64	21	9	21	10	5	1	....	1	2	3	....	187
23......	277	260	132	76	87	17	30	8	1	1	5	4	....	898
24......	921	1,096	453	203	323	125	147	27	6	10	31	14	6	3,362
Sched. 2.	658	591	322	166	282	77	61	11	4	6	17	12	1	2,208
Crown...	559	489	254	140	245	60	51	13	3	7	13	8	....	1,842
ALL....	6,657	8,752	3,364	1,918	2,259	1,079	920	211	37	54	197	138	27	25,613

TABLE 24—Continued

Permanent Disability Cases

Part of Body Affected	Per Cent. Impairment of Total Earning Capacity											
	0.0– 9.9	10.0–19.9	20.0–29.9	30.0–39.9	40.0–49.9	50.0–59.9	60.0–69.9	70.0–79.9	80.0–89.9	90.0–99.9	100.	TOTALS
Foot	162	5	3	3	3	1	....	....	....	....	....	177
Leg	342	13	5	2	12	8	8	1	1	....	4	396
Head	81	1	1	2	....	1	....	2	....	....	2	90
Face	37	1	2	....	....	....	....	....	....	....	....	40
Eye	115	109	6	....	....	1	....	1	....	....	6	238
Ear	10	....	....	....	....	....	....	....	....	....	....	10
Teeth	229	....	....	....	....	....	....	....	....	....	....	229
Arm	212	4	8	3	10	8	5	5	....	....	1	256
Hand	113	17	17	17	4	....	1	4	....	....	1	174
Thumb and two fingers	4	....	....	....	....	....	....	....	....	....	....	4
Thumb and one finger	3	....	....	....	....	....	....	....	....	....	....	3
Thumb	221	4	....	1	....	....	....	....	....	....	....	226
One finger	922	5	....	1	....	....	....	....	....	....	....	928
Two fingers	127	4	2	....	....	....	....	....	....	....	....	133
Three fingers	26	3	2	1	1	....	....	....	....	....	....	33
Four fingers	13	4	4	1	....	....	....	....	....	....	....	22
Internal organs	10	1	....	....	1	....	....	....	....	....	1	13
Industrial diseases	40	....	....	....	....	....	....	....	....	....	....	40
All other	114	2	1	3	2	....	2	4	....	....	7	135
TOTALS	2,781	173	51	34	33	19	16	17	1	....	22	3,147

Industrial Diseases

Description of Disease	Medical Aid Only	Temporary Disability	Permanent Disability	Death	TOTALS
Lead poisoning or its sequelae	..	26	2	1	29
Silicosis, pneumoconiosis, phthisis	..	..	36	5	41
Caisson disease	2	..	2	..	4
Benzol poisoning or its sequelae	..	1	..	1	2
TOTALS	2	27	40	7	76

TABLE 25

CAUSES OF ACCIDENTS, 1930

Cause	Medical Aid Only	Temp. Dis.	Perm. Dis.	Death	TOTALS
A. Prime Movers:					
1. Motors, engines, fans, pumps, and automatic stokers	75	104	30	..	209
2. Shafting, coupling, collars, set-screws, and keys	80	82	26	4	192
3. Belts, lines, pulleys, chains, and sprockets	215	228	60	5	508
4. Gears, cogs, cams, and friction wheels	85	101	41	1	228
Totals	455	515	157	10	1,137
B. Working Machines:					
1. Brick-making machines	2	7	4	..	13
2. Glass-making machines	5	..	1	..	6
3. Pottery-making machines	..	3	..	1	4
4. Stone-working machines	50	7	2	..	59
5. Mining machines, n.e.s.	6	46	8	..	60
6. Mine drills	193	183	29	1	406
7. Contracting machines	19	64	9	..	92
8. Metal-working machines	111	46	2	..	159
9. Abrasive wheels	1,970	199	39	..	2,208
10. Drilling and reaming machines	379	197	26	1	603
11. Lathes	385	143	13	..	541
12. Milling machines	28	61	27	..	116
13. Pneumatic tools	494	66	13	..	573
14. Presses—cutting, shaping, forming	376	261	112	..	749
15. Shearing and punching machines	96	41	15	..	152
16. Wire-working machines	13	31	9	..	53
17. Welding and heat-cutting machines	121	12	2	..	135
18. Wood-working machines, n.e.s.	70	73	13	1	157
19. Planers, jointers, and edgers	125	149	79	1	354
20. Saws	396	510	173	2	1,081
21. Shapers, moulders, and headers	86	41	23	..	150
22. Pulp and paper-making machines, n.e.s.	12	6	5	..	23
23. Barkers	7	16	1	..	24
24. In-running rolls	37	57	11	..	105
25. Paper-products and printing machines, n.e.s.	7	3	..	..	10
26. Cutting machines	19	17	4	..	40
27. Presses—printing and embossing	59	101	27	..	187
28. Stayers	6	17	5	..	28
29. Tanning machines	2	29	6	..	37
30. Leather-working machines	14	25	10	..	49
31. Rubber-working machines	60	37	9	1	107
32. Textile machines, n.e.s.	18	2	7	..	27
33. Carders	7	15	2	..	24
34. Pickers	4	11	5	..	20
35. Sewers	238	165	7	..	410
36. Finishers and launderers	8	28	12	..	48
37. Knitters	34	17	2	..	53
38. Cutters	18	7	2	..	27
39. Weavers	30	28	7	..	65
40. Spinners	6	5	1	..	12
41. Food-products, laboratory, and tobacco machines, n.e.s.	69	44	18	..	131
42. Baking machines	40	65	15	..	120
43. Bottling machines	38	28	5	..	71
44. Office machines	4	2	..	1	7
Totals	5,662	2,865	760	9	9,296

TABLE 25—Continued

Cause	Medical Aid Only	Temp. Dis.	Perm. Dis.	Death	TOTALS
C. Hoisting Apparatus:					
1. Elevators	34	62	18	1	115
2. Cranes	171	142	38	5	356
3. Conveyors	85	130	26	1	242
4. Mine cages	66	74	11	3	154
5. Other hoisting apparatus	115	262	39	8	424
Totals	471	670	132	18	1,291
D. Dangerous Substances:					
1. Steam escapes	35	66	2	3	106
2. Explosives	163	133	48	32	376
3. Electric currents	83	93	21	33	230
4. Conflagrations	2	4	..	..	6
5. Hot and inflammable substances and flames	879	871	49	14	1,813
6. Corrosive substances	108	77	7	1	193
7. Poisonous and deleterious substances	11	52	43	9	115
Totals	1,281	1,296	170	92	2,839
E. Stepping On or Striking Against Objects:					
1. Stepping on objects	1,036	504	6	1	1,547
2. Striking against objects	3,786	1,720	103	5	5,614
Totals	4,822	2,224	109	6	7,161
F. Falling Objects:					
1. From collapse of structure	8	19	4	..	31
2. From elevations	947	935	106	25	2,013
3. In mines and quarries	213	446	51	15	725
4. Other	19	186	26	9	240
Totals	1,187	1,586	187	49	3,009
G. Handling Objects:					
1. Heavy objects—loading, carrying, rolling, or piling	4,074	5,212	345	13	9,644
2. Sharp objects	451	296	19	..	766
3. Hand trucks, carts, and wheel-barrows	335	478	34	3	850
Totals	4,860	5,986	398	16	11,260
H. Tools:	2,525	2,669	298	6	5,498
I. Runaways and Animals:					
1. Runaways	12	27	3	2	44
2. Animals	94	281	25	2	402
Totals	106	308	28	4	446

TABLE 25—Continued

Cause	Medical* Aid Only	Temp. Dis.	Perm. Dis.	Death	TOTALS
J. Moving Trains, Vehicles, etc.:					
1. Train wrecks	6	44	6	10	66
2. Caught in switch or hit fixed objects	1	17	..	2	20
3. Struck by or caught between cars and engines	40	87	14	25	166
4. Other causes, cars, and engines	..	34	6	..	40
5. Mine and quarry cars	18	96	17	4	135
6. Automobiles and other power vehicles	480	746	108	17	1,351
7. Animal-drawn vehicles	51	215	21	6	293
8. All other vehicles	6	21	3	1	31
Totals	602	1,260	175	65	2,102
K. Falls of Persons:					
1. From elevations	162	532	94	27	815
2. From ladders	181	397	52	5	635
3. Into excavations, pits, and shafts	29	128	10	3	170
4. On level	1,215	2,738	204	12	4,169
5. Into elevator shafts	2	18	..	1	21
6. From vehicles	214	723	68	14	1,019
7. From collapse of support	38	196	35	3	272
8. On steps or stairways	145	261	15	1	422
9. Into tanks or vats	1	..	..	1	2
10. From tool slipping	12	50	4	..	66
Totals	1,999	5,043	482	67	7,591
L. All Other Causes:					
1. Flying fragments	4,791	704	185	2	5,682
2. Doors, gates, windows, and covers	346	300	39	2	687
3. Inhalation of gases, fumes, etc.	25	20	1	9	55
4. Immersion in water and drenchings	..	3	1	30	34
5. Exposure to elements	32	72	11	3	118
6. Violence	2	5	..	..	7
7. Cave-ins	23	87	14	6	130
8. Not elsewhere specified	..	..	..	..	..
Totals	5,219	1,191	251	52	6,713
GRAND TOTALS	29,189	25,613	3,147	394	58,343

TABLE 26

BLOOD-POISONING CASES, 1930

Ascribed to time of injury	252
Developed 1 day after injury	312
“ 2 days “ “	329
“ 3 “ “ “	246
“ 4 “ “ “	168
“ 5 “ “ “	138
“ 6 “ “ “	80
“ 7 “ “ “	63
“ 8 “ “ “	38
“ 9 “ “ “	26
“ 10 “ “ “	34
“ 11 “ “ “	17
“ 12 “ “ “	16
“ 13 “ “ “	8
“ 14 “ “ “	7
“ 15 “ “ “	9
“ 16 “ “ “	3
“ 17 “ “ “	3
“ 18 “ “ “	3
“ 19 “ “ “	4
“ 20 “ “ “	3
“ 21 “ “ “	2
“ 22 “ “ “	1
“ 23 “ “ “	2
“ 24 “ “ “	1
“ 25 “ “ “	2
“ 26 “ “ “	4
“ 27 “ “ “	2
“ 29 “ “ “	2
“ 30 “ “ “	2
“ 31 “ “ “	2
“ 32 “ “ “	1
“ 35 “ “ “	1
“ 36 “ “ “	1
“ 41 “ “ “	1
“ 45 “ “ “	3
“ 145 “ “ “	1
Immobilized joints due to infections	13
Amputations due to infections	19
Permanent eye injuries due to infections	4
Deaths due to infections	4
TOTAL CASES OF INFECTIONS	1,825

TABLE 27

DEATH CASES, 1930

Number of Cases

Pension Awards	243
Lump Sums	63
Burial Expenses and Medical Aid only	62
Burial Expenses only	26
TOTALS	394

Number, Relationship, and Residence of Dependants

Relationship of Dependants	Resident In Ontario	Not Resident in Ontario	TOTALS
Widow	194	33	227
Child	338	51	389
Mother	45	23	68
Father	27	18	45
Other	1	....	1
TOTALS	605	125	730

APPENDIX

SUMMARY OF COMPENSATION AND MEDICAL AID AWARDED

From Commencement of Act to End of 1931

Compensation Awarded

Schedule 1 Industries	$60,571,599 70
Schedule 2 (including Crown Cases)	18,953,653 64
Total Compensation	$79,525,253 34

Medical Aid Paid

Schedule 1 Industries	$12,399,364 51
Schedule 2 (including Crown Cases) furnished by Employer	
Total Benefits Awarded by Board	$91,924,617 85

SUMMARY OF ACCIDENTS REPORTED

From Commencement of Act to End of 1931

Schedule 1 Industries	791,124	
Schedule 2 (including Crown Cases)	137,447	
Total Number of Accidents Reported		928,571

FINANCIAL STATEMENT FOR SCHEDULE 1 INDUSTRIES

From Commencement of Act to End of 1931

INCOME AND CREDITS	
Net assessments received	$77,203,833 70
Received under Section 8	91,486 72
Received under Section 83 (4)	51,706 16
Received under Section 105	125,854 09
Received under Section 112 (3)	5,011 41
Received from D.P. & N.H.	169,937 51
Interest received	2,319,082 83
Credited from Disaster Reserve	252,425 41
Credited from Pension Fund	1,027,214 62
	$81,246,552 45

EXPENDITURE AND CHARGES	
Compensation paid other than pensions, compensation deferred, and under Secs. 22 and 36	$32,744,247 36
Pensions awarded	26,612,941 17
Deferred Compensation awarded	719,662 06
Paid under Section 22	996 40
Paid under Section 36	41 75
Paid under Section 8	8,035 80
Medical Aid paid	12,366,488 72
Administration Expenses paid	2,749,771 04
Paid to Safety Associations	1,384,695 80
Rehabilitation paid	25,447 35
Transferred to Disaster Reserve	353,259 80
Compensation estimated outstanding	1,932,757 41
Medical Aid estimated outstanding	439,346 53
Paid under Mine Rescue Work	52,327 25
Assessments estimated to be refunded on adjustment of 1931 Pay Rolls	73,926 69
Merit Rating Refunds to be made	92,333 55
Balance at Credit of Classes (Table 1)	1,690,273 77
	$81,246,552 45

SUMMARY OF PENSION FUND, SCHEDULE 1

From Commencement of Act to End of 1931

Pension awards	$26,507,515 76
Amount transferred from Disaster Reserve	105,425 41
Amount transferred from Silicosis Account	159,495 12
Interest added	8,078,903 61
	$34,851,339 90
Pension payments	14,663,812 56
	$20,187,527 34
Amount transferred to Current Fund	1,027,214 62
Balance December 31, 1931	$19,160,312 72

SUMMARY OF COMPENSATION DEFERRED, SCHEDULE 1

From Commencement of Act to End of 1931

Compensation deferred	$719,662 06
Interest added	89,500 30
	$809,162 36
Amounts paid on Compensation Deferred, Principal and Interest	709,025 21
Balance December 31, 1931	$100,137 15

SUMMARY OF DISASTER RESERVE, SCHEDULE 1

From Commencement of Act to End of 1931

Amount set aside	$353,259 80
Interest added	156,468 66
	$509,728 46
Transferred to classes	252,425 41
Balance December 31, 1931	$257,303 05

SUMMARY OF SILICOSIS ACCOUNT, SCHEDULE 1

From Commencement of Act to End of 1931

Assessments collected		$720,937 27
Interest added		32,164 25
		$753,101 52
Payments made:		
For Compensation	$467,946 56	
For Medical Aid	32,875 79	
For Salaries and Expenses	130,143 29	
For Handling Claims and Supervision	75,773 69	
For Salaries and Expenses of Referee Board	14,284 45	
		721,023 78
Balance, December 31, 1931		$32,077 74

SUMMARY OF INVESTMENTS, SCHEDULE 1

From Commencement of Act to End of 1931

Invested	$37,618,957 05
Less principal returned	13,568,725 37
Book Value of Investments, December 31, 1931, Principal	$24,050,231 68
Plus accrued interest not received or apportioned	267,477 65
Total Book Value of Investments, December 31, 1931	$24,317,709 33

SUMMARY OF SCHEDULE 2 FUNDS

From Commencement of Act to End of 1931

Received from employers		$13,547,984 51
Interest received		2,277,734 05
		$15,825,718 56
Payments made	$11,650,622 04	
Deposits returned to employers	695,348 89	
		12,345,970 93
Cash in Bank and Invested, December 31, 1931		$3,479,747 63

SUMMARY OF INVESTMENTS, SCHEDULE 2

From Commencement of Act to End of 1931

Invested	$3,925,982 07
Less principal returned	472,976 62
Book Value of Investments, December 31, 1931, Principal	$3,453,005 45
Plus accrued interest not received or apportioned	34,181 06
Total Book Value of Investments, December 31, 1931	$3,487,186 51

SUMMARY OF RECEIPTS AND PAYMENTS

From Commencement of Act to End of 1931

Schedule 1

Receipts		
Assessments, including additional assessments, added percentage, and interest for under or over estimate...	$77,972,798 85	
Less Merit Rating (Charges.. $1,067,195 43 Refunds... 1,836,160 58)	—768,965 15	
		$77,203,833 70
Under Section 8		91,486 72
Under Section 83 (4)		51,706 16
Under Section 105		125,854 09
Under Section 112 (3)		5,011 41
From D.P. & N.H.		169,937 51
From Silicosis		720,937 27
From Province of Ontario under Section 77, grants for administration expenses		655,500 00
From Schedule 2 and Crown employers for share of administration expenses		485,451 44
Interest from investments and bank deposits		10,676,119 65
Principal returned from investments		13,568,725 37
From Special Statistical Services		17,535 00
From Dominion Bank (overdraft Dec. 31, 1931)		328,523 52
		$104,100,621 84

Payments	
Compensation Payments other than on pensions or deferred awards or under Secs. 22 or 36	$32,744,247 36
Paid on Pensions	14,663,812 56
Paid on Deferred Awards, principal and interest	709,025 21
Under Section 22	996 40
Under former Section 36	41 75
Under Section 8	8,035 80
For Medical Aid	12,366,488 72
For Rehabilitation	25,447 35
For Administration Expenses	4,043,444 00
For Safety Associations	1,384,695 80
For Investments	37,618,957 05
For Silicosis	485,754 97
For Mine Rescue Work	49,133 91
Overpayment of Administration Expenses from Schedule 2 employers (refunded in 1926)	12
Cash in Bank, Dec. 31, 1931	540 84
	$104,100,621 84

Schedule 2

RECEIPTS	
From Employers for Deposits under Section 28 and for Claimants' Moneys.......	$5,643,946 07
From Employers for Deposits under Section 32.........	7,904,038 44
Interest from Investments and Bank Deposits.......	2,277,734 05
Principal returned from Investments...............	472,976 62
	$16,298,695 18

PAYMENTS	
To Claimants out of Deposits under Section 28 and Claimants' Moneys.......	$3,841,700 21
Returned to Employers out of Deposits under Section 28.....................	639,904 67
Paid out of Deposits under Section 32:	
To Claimants...........	7,806,488 27
Returned to Employers...	49,674 72
To Schedule 1 for Administration Expenses.......	5,769 50
Rehabilitation Paid........	2,433 56
For Investments...........	3,925,982 07
Cash in Bank, Dec. 31, 1931	26,742 18
	$16,298,695 18

AUDITORS' CERTIFICATE

THE WORKMEN'S COMPENSATION BOARD OF ONTARIO,
Metropolitan Building, Toronto, Ontario.

Gentlemen:

We have completed a continuous audit of the books of the Board for the year ended December 31, 1931, and have obtained all the information and explanations we have required.

In our opinion, the Statements of Receipts and Payments, Table 6, Schedules 1 and 2, do truly and fairly set forth the Cash transactions of the Board for the Calendar year 1931, subject to any adjustment of receipts of interest on Registered Bonds payable in New York funds and which have been received in Canadian funds.

Bank Balances at the close of the period have been verified by direct communication with the Board's Bankers.

The Investments of the Board as of December 31, 1931, as shown by the books, have been verified by actual count. The book value of these Investments, taken at cost adjusted by Amortization, is $27,503,237.13.

Respectfully submitted,

FRED PAGE HIGGINS & CO.,
Chartered Accountants.

Toronto, March 2, 1932.

TABLE 6

STATEMENT OF RECEIPTS AND PAYMENTS DURING 1931

SCHEDULE 1

RECEIPTS

Cash in Banks, Jan. 1, 1931:		
Dominion Bank	$180,634 48	
Can. Bank of Commerce	1,351 49	
Royal Bank	15,506 72	
		$197,492 69
Net Assessments, Penalties, etc., collected:		
Gross Assessments	$5,307,819 36	
Under Sec. 8	11,057 84	
Under Sec. 105	6,739 84	
Under Sec. 112 (3)	342 54	
From D. P. & N. H.	19,508 45	
	$5,345,468 03	
Less:		
Assessments and Penalties Refunded	$139,351 68	
Merit Rating Refunds	120,233 02	
	$259,584 70	
		5,085,883 33
Interest	$1,203,516 33	
1931 Apportionment of Discounts on Debenture Purchases (See Contra)	38,118 66	
		1,241,634 99
From Schedule 2 Employers and Dominion Crown for Administration Expenses. Account of prior years paid out of Schedule 1 in 1930		48,553 06
Principal returned from Investments	$1,338,123 74	
Decrease in Value of Investments by Amortization of Premiums	42,631 91	
		1,380,755 65
Silicosis		277,115 56
Special Statistical Services		9,905 00
Bank Overdraft, December 31, 1931, Dominion Bank		328,523 52
		$8,569,863 80

PAYMENTS

Compensation Paid other than Pensions and Compensation Deferred		$2,263,504 70
Pensions Paid		1,773,252 56
Deferred Compensation Paid		49,352 67
Rehabilitation Paid		3,965 57
Medical Aid Paid		1,049,413 80
Silicosis Paid		130,873 99
Paid under Section 8		950 31
Mine Rescue Work Paid		18,893 69
Administration Expenses		360,396 05
Paid to Safety Associations		164,499 03
Invested	$2,716,101 93	
1931 Apportionment of Discounts on Debenture Purchases (See Contra)	38,118 66	
		2,754,220 59
Cash in Banks, Dec. 31, 1931:		
Canadian Bank of Commerce	$286 68	
Royal Bank	254 16	
		540 84
		$8,569,863 80

Schedule 2

RECEIPTS

Cash in Imperial Bank, Jan. 1, 1931		$93,382 91
From Employers, Deposits under Section 28		157,013 01
From Employers, Claimants' Moneys		1,640 00
From Employers, Deposits under Section 32		788,675 78
Interest	$184,596 90	
1931 Apportionment of Discounts on Debenture Purchases (See Contra)	7,307 44	
Profit on Sale of Securities	1,622 33	
		193,526 67
Principal Returned from Investments	$92,967 53	
Decrease in Value of Investments by Amortization of Premiums	2,946 40	
		95,913 93
		$1,330,152 30

PAYMENTS

To Claimants out of Deposits under Section 28		$327,172 57
Deposits Returned to Employers under Section 28		162,762 01
To Claimants out of Claimants' Moneys		5,313 65
Paid out of Deposits under Section 32:		
For Compensation	$734,948 75	
For Medical Aid	45,406 35	
		780,355 10
Deposits Returned to Employers under Section 32		19,828 31
Invested	$671 04	
Increase in Book Value of Investments by 1931 Apportionment of Discounts on Debenture Purchases (See Contra)	7,307 44	
		7,978 48
Cash in Imperial Bank, Dec. 31, 1931		26,742 18
		$1,330,152 30

INDEX

ACCIDENTS, PAGE
  blood poisoning cases 45, 61
  causes of 45, 58–60
  claims reopened 6, 20
  cost of, by classes and groups for 1930 46–48
  cost of different kinds of 43, 44, 52, 53
  death cases.—*See* Death Cases.
  decrease in number of 5
  duration of disability 44, 45
  fraudulent claims 6, 7
  frequency of 42, 43
  locality of 43, 50
  month of occurrence 5, 43, 49
  nature of injuries 44, 45, 56, 57
  number of, reported 5, 19, 63
  number and kinds of, paid for 5, 19, 21, 42, 49
  permanent disability.—*See* Permanent Disability Cases.
  prevention of 8, 9
  statistics of 19, 42, 43
  temporary disability.—*See* Temporary Disability Cases.
  time loss 43, 44, 51, 55

ACCIDENT FUND.—*See also* Funds, Condition of,
  explanation of 9, 10, 25
  standing of 9, 10, 25, 28

ACCIDENT PREVENTION ASSOCIATIONS,
  activities increased 8
  cost of 8, 12, 14, 20, 24, 63, 65
  employers' accident experience studied by 8
  industries covered by 24
  particulars of 8, 24
  results of work of 8
  total cost since commencement of Act 63, 65

ACCOUNTS.—*See* Financial Statements.

ACT,
  amendments during 1931 7, 8
  investigations,
    fraudulent claims 6, 7
    under The Public Inquiries Act 8
  summary of operation of since commencement 63–66
  two systems—collective and individual liability 11, 12, 16
  work handled under 5–10, 18–24, 63–66

ADMINISTRATION.—*See* Act and Administration Expenses.

ADMINISTRATION EXPENSES,
  amount charged to each class 14
  amount charged to Schedule 1 employers 7, 12, 14, 20, 24
  amount charged to Schedule 2 employers 7, 16, 20, 24
  amount charged to Dominion and Provincial Crown 7, 20, 24
  analysis of 24
  explanation of 6, 7, 20
  increase in, explanation of 6
  percentage of 7, 16, 20
  total since commencement of Act 63, 65

AGE OF INJURED WORKMEN 43, 51

ALLEGIANCE OF INJURED WORKMEN 44, 54

ASSESSMENTS,
  adjustment of 11, 14
  compared with accident cost 41
  explanation of what is included in 12
  figures for 1931, provisional 12, 14
  final figures for 1930, by classes and groups 45–48
  final figures, 1915-1930 41, 42

ASSESSMENTS—*Continued* PAGE
- merit rating, refunds and charges 65
- number of 20
- pay roll represented by 13, 15, 42
- principle and method of levy 11, 12
- rate, average 5, 13, 42
- rates for different years, comparison of 42
- total since commencement of Act 63, 65

AUDITORS' CERTIFICATE 10, 66–68

AVERAGE AGE OF WORKMEN 43, 51

AVERAGE EARNINGS.—*See also* Wages,
- in compensation cases 43, 51

AWARDS CHANGED, NUMBER OF 20

BENEFITS.—*See also* Compensation and Medical Aid,
- awarded during 1931 5, 18
- awarded during each year since commencement of Act 18
- awarded for each year, 1915-30 41
- cheques issued 20
- total since commencement of Act 5, 18, 63

BLIND WORKMEN'S COMPENSATION ACT 7, 8

BLOOD POISONING CASES,
- deaths caused by infection 45, 61
- number of 45, 61

BOARD,
- expenses of 6, 7, 12, 14, 16, 20, 24, 65
- investigation of fraudulent claims 6, 7
- medical examinations of permanent disabilities by Chief Medical Officer of 6
- members of 3
- office premises 5
- salaries of, paid out of accident fund 24
- salaries of staff of 24
- work of, increased 6

CAUSES OF ACCIDENTS 45, 58–60

CLAIMS.—*See* Accidents.

CLASS NUMBERS OF INDUSTRIES 14

COLLECTIVE LIABILITY SYSTEM,
- explanation of 11, 12
- most industries under 11, 14

COMPENSATION.—*See also* Benefits,
- awarded and estimated for 1931, Schedule 1 12, 14
- awarded during each year 18
- causes of increase from early years 18
- costs, total, and average per accident 44, 52
- deferred 14, 26, 30, 64
- explanation of difference between "for" and "during" the year 11
- figures for Schedule 1 industries 12, 14, 18, 21, 44, 52, 63
- figures for Schedule 2 industries 5, 16, 18, 21, 63
- in Crown cases 5, 16, 18, 21
- total awarded since commencement of Act 63

CONTENTS OF REPORT 4, 10

CROWN CASES 8, 16, 18, 19, 21

DEATH CASES,
- causes of accidents in 58, 59, 60
- compensation cost in 44, 52
- dependants in 62
- due to infection 45, 61

DEATH CASES—*Continued* PAGE
frequency, each year ... 43
medical aid cost in ... 44, 53
number of ... 5, 19, 21, 42, 49, 62

DISABILITY,
duration of ... 44, 45
nature of ... 44, 45, 56, 57

DISASTER RESERVE,
cases in which applied ... 9, 26
condition of ... 9, 26, 29, 64
explanation of ... 9, 26
interest added to ... 26, 29, 64
withdrawals from ... 26, 29, 64

EARNINGS OF WORKMEN ... 43, 51

EMPLOYERS,
accident experience of, studied by safety associations ... 8
accident prevention, associations of ... 8, 14, 20, 24, 63, 65
employment of maimed workmen ... 9
first aid, responsibility for ... 9
number of, in Schedule 1 ... 5, 12, 15
pay roll, amount of ... 5, 13, 15, 42
rehabilitation of workmen ... 9
under two systems ... 11, 12, 16

EXPENDITURE AND CHARGES, SCHEDULE 1,
administration expenses ... 6, 7, 12, 14, 20, 24, 63
compensation awarded ... 5, 12, 14, 18, 21, 44, 52, 63
explanation of ... 11, 12
medical aid paid ... 5, 12, 14, 18, 21, 44, 53, 63.
mine rescue work, cost of ... 9, 12, 14, 24, 45, 63
rehabilitation, cost of ... 9, 14, 45, 63
safety associations, amount paid to ... 8, 12, 14, 24, 63
silicosis, paid for ... 22, 27, 30, 64, 65
total amount of ... 12, 14, 41, 45, 63

FATAL CASES.—*See* Death Cases.

FINANCIAL STATEMENTS,
condition of funds.—*See* Funds, Condition of.
explanation of "provisional" and "final" and "for" and "during" the year ... 11
for Schedule 1 by classes, provisional for 1931 ... 11, 14
for Schedule 1 by classes and groups, final for 1930 ... 41, 45–48
for Schedule 1 industries since commencement of Act ... 63
for Schedule 2 funds during 1931 ... 17
for Schedule 2 funds since commencement of Act ... 65, 66
receipts and payments during 1931 ... 20, 22, 23, 67, 68
receipts and payments from commencement of Act ... 65, 66
summaries from commencement of Act ... 63–66

FIRST AID,
employers' responsibility for ... 9
mine rescue work ... 8, 9, 24, 63

FRAUDULENT CLAIMS,
investigation of ... 6, 7

FUNDS, CONDITION OF,
auditors' certificate as to ... 66–68
explanation of ... 9, 10, 25–27
Schedule 1 funds ... 9, 10, 25–30, 64
pension fund ... 9, 25, 26, 29, 64
disaster reserve ... 9, 26, 29, 64
compensation deferred ... 26, 30, 64
silicosis account ... 26, 27, 30, 64
Schedule 2 funds ... 17, 27, 28, 65
investments ... 9, 10, 27, 30–40, 64, 65

PAGE

GOVERNMENT EMPLOYEES' COMPENSATION ACT,
- amendment to 8

INCOME AND CREDITS, SCHEDULE 1,
- assessments 12, 14, 41, 45–48, 63
- collections under secs. 8, 83 (4), 105 and 112 (3) 12, 14, 63
- explanation of 11, 12
- for 1930, by classes and by groups 45–48
- for 1931, by classes 14
- interest 12, 14, 22, 63–65
- reimbursement on account of accidents to war pensioners 12, 14, 63
- re-transfer from Pension Fund 25, 26, 63, 64
- total amount of 12, 14, 41, 45, 63

INDIVIDUAL LIABILITY SYSTEM,
- explanation of 11, 16
- industries under 16

INDUSTRIAL DISEASES,
- compensated for 1930, number and kinds 44, 45, 57
- miners' phthisis, amendment respecting 7

INDUSTRIES.—*See also* Schedule 1 and Schedule 2 Industries,
- chief ones in Schedule 2 16
- much the greater number in Schedule 1 11
- nature of, in each class in Schedule 1 12, 14
- under two systems 11

INFECTION.—*See* Blood Poisoning.

INJURIES,
- nature of 44, 45, 56, 57

INTEREST,
- amount received during 1931 22, 23
  - from commencement of Act 65, 66
- credited to the different funds 29, 30, 64, 65
- rate received 10, 27
- rate on pension fund 26
- yield rate on respective investments 31–40

INVESTMENTS,
- amount of and information concerning 9, 10, 27, 30, 64, 65
- Board's responsibility for 9, 10
- list and particulars of 31–40
- rate of interest on 10, 27, 31–40

LOCALITY OF ACCIDENTS 43, 50

MEDICAL AID.—*See also* Benefits,
- claims in which medical aid but no compensation paid 5, 19, 21, 42, 43, 49, 53
- costs, total, and average per accident 44, 53
- expenditure for, in Schedule 1 industries 5, 12, 14, 18, 21, 44, 53, 63, 65
- frequency of medical aid only cases 43
- provided directly by employers in Schedule 2 industries 18, 21, 63

MERIT RATING,
- amount to be refunded in 1932 9, 14
- summary since commencement of Act 65

MINE RESCUE WORK,
- expenditure for 9, 12, 14, 24, 63
- extended 6, 9

MONTH OF OCCURRENCE OF ACCIDENTS 5, 43, 49

MUNICIPAL BODIES,
- awards in respect of 16

NATURE OF INJURIES 44, 45, 56, 57

NAVIGATION COMPANIES, PAGE
awards in respect of........ 16

OFFICE PREMISES........ 5

PAY ROLLS.—*See also* Assessments,
estimated amount of........5, 13, 15, 42
in each class of industry........ 15
percentages charged employers........5, 13, 42

PENALTIES, etc.—*See* Income and Credits.

PENSION FUND,
age of pensioners investigated........ 6
condition of........9, 25, 26, 29, 64
explanation of........9, 25, 26
interest added to........26, 29, 64
investment of........ 9, 10
receipts and payments........26, 29, 64
re-transfer to current fund........25, 26, 64
statement of, by classes........ 29
test of sufficiency of........25, 26

PERMANENT DISABILITY CASES,
causes of accidents in........58, 59, 60
compensation cost in........44, 52
frequency of, each year........ 43
medical aid cost in........44, 53
medical examinations of........ 6
number of........19, 21, 42, 49
percentage of impairment in........44, 57
time loss in........ 51

PHYSIOTHERAPY,
establishment of department of........ 9

PUBLIC INQUIRIES ACT,
investigation under........ 8

RAILWAYS.—*See also* Street Railways,
awards in respect of........ 16

RATES OF ASSESSMENT.—*See* Assessments.

RECEIPTS AND PAYMENTS.—*See* Financial Statements.

REHABILITATION,
Board's efforts to rehabilitate injured workmen........ 9
payments for........9, 14, 22, 45, 48, 63, 65, 66
physiotherapy department........ 9

RESERVE.—*See* Disaster Reserve and Pension Fund.

REVIEW, GENERAL........ 5

SAFETY ASSOCIATIONS.—*See* Accident Prevention Associations.

SCHEDULE 1 INDUSTRIES,
accounts kept for each class........11, 12
condition of funds........25–40
final statements and statistical information for 1930........41–62
information and provisional statement for 1931........11–15
list of, showing classes and groups, where to be found........12, 41
nature of industries in each class........ 14
summaries from commencement of Act to end of 1931........63–66
under assessment or collective liability system........ 11
work handled during 1931........18–24

SCHEDULE 2 INDUSTRIES,
chief industries included under........ 16
condition of funds........17, 27, 28, 39
information and statements for 1931........16, 17

SCHEDULE 2 INDUSTRIES—*Continued* PAGE
  statistical information for 1930 41–62
  summaries from commencement of Act to end of 1931 .... 63, 65, 66
  upon individual liability basis 16
  work handled during 1931 18–24

SILICOSIS,
  account, standing of 26, 27, 30, 64
  awards in respect of 27, 30, 64
  mine rescue work 6, 9, 24, 65

STREET RAILWAYS,
  awards in respect of 16

SUMMARIES OF OPERATIONS FROM COMMENCEMENT OF ACT TO END OF 1931,
  accidents dealt with 5, 19, 63
  administration expenses, amount of 63, 65
  assessments, Schedule 1 .... 63, 65
  benefits awarded 5, 18, 63
  compensation awarded 18, 63
  compensation deferred, summary of 64
  disaster reserve, summary of 64
  expenditure and charges, Schedule 1, summary of 63
  financial statement for Schedule 1 industries 63
  income and credits, Schedule 1, summary of 63
  investments, Schedule 1 64
    Schedule 2 65
  medical aid paid 18, 63, 65
  payments and receipts, summary of 65, 66
  pension fund, summary of 64
  receipts and payments, summary of 65, 66
  rehabilitation paid 63, 65, 66
  safety associations, payments to 63, 65
  Schedule 1 funds, summaries of 64
  Schedule 2 funds, summary of 65
  silicosis account, summary of 64

TELEPHONE AND TELEGRAPH COMPANIES,
  awards in respect of 16

TEMPORARY DISABILITY CASES,
  causes of accidents in 58, 59, 60
  compensation cost in 44, 52
  duration of disability in 44, 55
  frequency of, each year 43
  medical aid cost in 44, 53
  nature of injuries in 44, 56
  number of 19, 21, 42, 49
  time loss in 43, 44, 51, 55

TIME LOSS 43, 44, 51, 55

WAGES.—*See also* Earnings,
  average in compensation cases 43, 51
  estimated total in Schedule 1 industries 5, 13, 15, 42
  estimated total in Schedule 2 industries 13

WEEK OF TERMINATION OF TEMPORARY DISABILITIES 44, 45

WORK HANDLED,
  during 1931 .... 5–10, 18–24
  since commencement of Act 63–66

WORKMEN,
  allegiance of 44, 54
  average age of 43, 51
  average weekly wage of 43, 51
  marital condition of injured workers 44, 55
  medical examinations of,
    as to permanent disability 6
  physiotherapy treatment of 9
  rehabilitation of 9
  sex of injured workers 44, 55

Ontario Department of Agriculture

REPORT

OF THE

Ontario Veterinary College
1931

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1932

Report of the

Ontario Veterinary College

To The Honourable Thomas L. Kennedy,
Minister of Agriculture.

Sir,—

I have the honour to present herewith the following report of the Ontario Veterinary College for the year extending from November 1st, 1930, to October 31st, 1931.

Student Enrolment

The student enrolment is being maintained at a satisfactory level. A total of 79 students were in regular attendance during the Spring term ending April 30th, 1930, and for the Fall term of the present session a total of 113 students are enrolled. Twenty candidates received the degree of Bachelor of Veterinary Science (B.V.Sc.) at the Convocation of the University of Toronto held on April 29th, 1931. It is very encouraging to be able to report such a noticeable improvement in the attendance in spite of the unusual business conditions. Students are again in attendance from each of the provinces of Canada, and from Great Britain and other parts of the British Empire, as well as from many parts of the United States. An analysis of the enrolment this session indicates that 72 students are from Ontario and other parts of Canada, 8 are from Great Britain and the Empire, 33 are from the United States. The mingling together in complete harmony of so many young men from widely separated places is of immense value in fostering a spirit of good will and fellowship, and gives to the College an international value which can hardly be over-estimated. The reputation of the College is considerably enhanced thereby and redounds to the credit of your Department in its impartial administration.

The Teaching Staff

No changes were made during this year, other than a rearrangement whereby the work of R. Gwatkin, who is on leave of absence, was assumed by other members of the staff. The personnel of the staff and their respective departments are as follows:

C. D. McGilvray, M.D.V., D.V.Sc., Principal, Contagious Diseases, Sanitary Service.
J. N. Pringle, M.R.C.V.S., B.V.Sc., Sporadic Diseases, Dentistry.
R. A. McIntosh, M.D.V., B.V.Sc., Diseases of Cattle, Obstetrics, Pharmacy, Therapeutics.
W. J. R. Fowler, V.S., B.V.Sc., Surgery, Lameness, Materia Medica.
H. D. Nelson, B.V.Sc., D.V.Sc., Anatomy.
H. E. Batt, V.S., B.V.Sc., Zoology, Histology, Meat Hygiene.
F. W. Schofield, B.V.Sc., D.V.Sc., Pathology, Bacteriology.
A. A. Kingscote, B.V.Sc., Parasitology, Pathology.
L. Stevenson, B.V.Sc., M.S., Physiology.
J. S. Glover, B.V.Sc., Serologist, Poultry Diseases.
F. J. Cote, B.V.Sc., Canine and Feline Diseases.
Angus Dunbar, Jurisprudence.
R. Gwatkin, B.V.Sc., D.V.Sc. (On leave of absence).

COURSES OF STUDY AND INSTRUCTION

No material changes have been made in the curriculum of the regular undergraduate course. It is considered best to keep the curriculum under review and to progressively develop the basic subjects as a foundation rather than to make haphazard changes without due consideration. As stated in previous reports, increased attention is being given to the fundamental sciences and to correlate the lectures with clinical instruction and laboratory practices. A great deal of loose expression is heard from time to time as to comparisons between the present system of education and the knowledge acquired by students of to-day with those of former times. In so far as this institution is concerned, I have no hesitation in saying that the standards of preparation and qualifications for graduation are infinitely better at the present time than formerly, and students are persisting in their quest and acquisition of knowledge just as assiduously as ever. It is true that the undergraduates of to-day are, as a group, less mature in years than the general average of some years ago, but withal they are equally alert in keeping abreast of the times, in doing a better average quality of work, and in the development of a broad intellectual outlook. In addition to the regular undergraduate work, special short courses and conferences were provided for graduates and selected groups. During the month of July, a special refresher course was arranged for graduates in general practice, with an average of sixty-five in attendance. The topics were presented in a series of lectures, discussions, laboratory practices and clinical demonstrations, as indicated in the following outline.

Bang's Disease (contagious abortion):
- (a) General review of the disease, its nature and control.
- (b) The use and application of the agglutination test.
- (c) Demonstrations in the bleeding of cattle for the test.
- (d) Laboratory practices in the technique of performing the test.
- (e) Test readings and interpretation of the test.
- (f) General discussion of the disease from field observations.

Nutritional Diseases of Animals:
- (a) Anemia in suckling pigs.
- (b) Rickets in young animals.
- (c) Osteomalacia in cattle.

Parasitic Diseases of Animals:
- (a) The diagnosis and control of prevailing parasitic diseases.
- (b) Fecal examinations and the identification of parasites.
- (c) The selection and administration of parasitic remedies.

Diseases of Young Animals:
- (a) White scours in calves.
- (b) Joint-ill of foals.

Poultry Diseases:
- (a) Pullorum disease, its nature, diagnosis and control.
- (b) The bleeding of poultry for the pullorum test.
- (c) Laboratory practices in the technique of the pullorum test.
- (d) Poultry diseases in general and post mortem examinations.

Miscellaneous Topics:
- (a) Hemorrhagic septicemia of cattle, sheep and swine.
- (b) Biologics and their place as prophylactic and curative agents.
- (c) Cirrhosis of the liver in horses.
- (d) Clinical and surgical demonstrations.
- (e) Milk hygiene and dairy inspection.

A special course was also provided for those interested in Fox Farming, at which seventy were in attendance. This conference was held under the auspices of the Ontario Silver Fox Breeders' Association, and in co-operation with the staff of the Government Experimental Fur Farm at Kirkfield. The course was arranged in accordance with the following outline:

Hygiene and Sanitation:
- (a) Selection of the fox ranch, its arrangement and management.
- (b) Special ranch management during epidemics.

Genetics and Breeding Problems:
- (a) Selective mating.
- (b) Physiology of reproduction.
- (c) Management of pregnant females and care of the young.

Feeds and Feeding:
- (a) Routine methods of feeding.
- (b) The value of certain minerals in the diet.
- (c) The value of certain vitamins in the diet.
- (d) The importance of the ductless glands in nutrition.

Diseases and Their Prevention:
- (a) Bacteria and disease.
- (b) Encephalitis of foxes.
- (c) Distemper of foxes.
- (d) Parasitic diseases.
- (e) Restraint and administration of medicines.

Miscellaneous Topics:
- (a) The development and structure of fur.
- (b) The improvement of pelts.
- (c) Diversified fur farming.

Research and Investigational Work

During the past year a consistent effort has been made to deal with several disease problems which appeared to be of special importance. In planning this work it was so arranged as to avoid, as far as possible, the duplication of similar work being conducted elsewhere, and a repetition of experiments unless necessary. Considerable time and attention was devoted to the prevalence of nutritional diseases affecting animals in certain localities. Incidental thereto a special survey was undertaken in co-operation with the Ontario Agricultural College to determine the incidence and distribution of osteomalacia in cattle. To obtain this information over fifteen hundred cattle were examined on sixty different farms throughout the older settled sections of eastern and western Ontario. A detailed report of this investigation submitted by the Committee is appended. Further progress was made in respect to the prevention and treatment of anemia in suckling pigs. A more satisfactory treatment was found in the use of reduced iron, and this information has been made available in a special bulletin printed for general distribution as a means of lessening the mortality from this disease. Very favourable reports have been received as to the merits and beneficial results of the treatment recommended. Special research work was undertaken in connection with a disease affecting a large number of milch goats, characterized by a severe inflammation of the gall bladder resulting from bacterial infection with the *Salmonella schottmulleri*. A detailed report of this work is appended under the department of bacteriology. Further investigations were made in respect to unusual diseases of horses occurring in the Temiskaming district of Northern Ontario. A survey was made in the affected districts and some of the cases were found to be characterized by cirrhosis of the liver, believed by some to be associated with intensive pasturing on and the feeding of alsike clover hay. Other cases were found to be attributable to plant poisoning from the common horsetail *Equisetum arvense* which is quite frequently present in the pasture and hay growing in certain localities. Cases of an infectious febrile disease simulating Swamp Fever were also encountered, together with cases of intestinal parasitism due to *Strongylidae*. Feeding and other experiments are still in progress relating to these cases, but the work has not been sufficiently covered to warrant a definite report as yet.

In collaboration with the Ontario Research Foundation work, was carried on with a number of calves to determine local variations in the habits of warble flies, together with experiments to produce artificial immunity, and upon the value of salt solutions as a larvicide. A detailed report of this work was submitted to the Research Foundation and an abstract of this is included as one of the appendices of the department of parasitology.

Additional articles are submitted as appendices dealing with the control of *B. Bronchisepticus* infection in dogs, and a review of the routine work carried on relating to poultry diseases by means of laboratory examinations.

From the foregoing it will be seen that, in addition to the regular academic work, the different members of the staff have been kept busily engaged in definite investigations and researches of a very valuable and far reaching nature.

PUBLIC EXTENSION SERVICE

This is a field of useful public service which is becoming more widely appreciated by those receiving help. It, immediately and effectively, provides for live stock owners throughout the Province the benefit of highly trained clinical and laboratory assistance for the scientific diagnosis, control and prevention of disease. An increasing number of animals and specimens were received for examination during the year. At the surgical clinics 825 animals were presented for operative treatment, 2,619 specimens were received for laboratory examination, 21,333 poultry blood samples were submitted to the agglutination test for pullorum infection, and in addition sufficient of the pullorum antigen or test fluid was prepared and supplied to take care of over 40,000 additional tests, 6,717 cattle blood samples were submitted to the agglutination test for *B. abortus* infection (contagious abortion), 2,775 doses of killed culture abortion vaccine were supplied on request of veterinarians and owners for this treatment. The details of these different services are recapitulated in synoptical tables, which are appended under the departments concerned.

In reviewing this work, it becomes largely of a routine nature, involving much time and patient work, through personal interviews and consultations, a vast amount of correspondence together with detailed reports of laboratory examinations, and such advice as appears necessary. The demand for these services was more noticeable in respect to poultry diseases, parasitic diseases of sheep and swine, and in the case of cattle, more especially as regards hemorrhagic septicemia and contagious abortion. This latter disease is still one of great concern as to the best means of combatting it. While the plan of blood testing herds, with the view of establishing abortion-free units, is becoming more acceptable to some, at the same time the majority are discouraged from adopting it owing to the perplexing difficulty of salvaging the reactors or satisfactorily disposing of them except at a great material sacrifice. It is believed that many owners might gradually make progress in suppressing this troublesome disease on their premises by having their cattle periodically tested, followed by the separation of the herd into reacting and non-reacting groups, according to the best arrangements they are able to make, until the reactors can be dispensed with, and by endeavouring to safeguard the off-spring from infection so as to build up and develop a clean herd. It is unfortunately the case, nevertheless, that this modified plan, which at first sight appears adaptable in some cases is not proving acceptable to many owners at the present time on account of their circumstances. Undoubtedly the best way to solve the problem of abortion is to establish clean herds and keep them free from the disease. However, such a procedure is still awaiting the solution of technical and economic difficulties as to the satisfactory disposal of reactors to the test. As a result there still continues to be a persistent demand from veterinarians and owners to be supplied with vaccines for the palliative treatment of affected herds to lessen the abortion rate. Here again one is faced with conflicting opinions as to the value and use of vaccines. The doubtful value of the bacterin or "killed culture" in affording a satisfactory degree of lasting immunity and the possible danger of the true vaccine or "live culture" increasing the number of carriers and accentuating the incidence of cases of undulant fever in man precludes unqualified support of their use. As a compromise we have deemed it prudent for the time being, only to supply the bacterin or killed culture vaccine to practising veterinarians at their request and fully realize that opinions for or against this treatment may be supported. In spite of conflicting opinions as to the best solution of the abortion problem, we are making steady progress in establishing confidence and good will through increasing our contacts with owners and their veterinarians and by assisting them in dealing with their herds according to the existing circumstances. In this connection, it may be worthy of mention that during the year over five hundred letters have been received and answered personally regarding this one disease, and over one hundred interviews and consultations have been extended to owners wishing to discuss their problem personally.

In concluding this brief report of the College and its functions, it is gratifying to note that the need and value of veterinary education and training as a public service is greater to-day than ever before and is becoming more widely recognized. This statement is based on two fundamental facts of major importance to the well-being and prosperity of a nation:

First.—The welfare of public health is being safeguarded through veterinary science by the control of diseases communicable from animals to man with fatal effect.

Second.—The prosperity of live stock development and allied interests is being safeguarded. It is an established fact that the human race depends largely on farm animals for food and clothing. If any of the so-called serious animal plagues should gain a foothold here one can readily appreciate the damage that would accrue to both producers and consumers and the losses to allied interests through the dislocation of live stock traffic and marketing, to trade and commerce in general, and the large expenditure of public funds required to suppress such diseases as prevailed.

All of which is respectfully submitted.

C. D. McGilvray,
Principal.

Guelph, Ontario,
October 31st, 1931.

CLINICAL DEPARTMENT

The work of this department embraces the applied branches of veterinary medicine and surgery. All animals brought to the clinics are carefully examined after which treatment is prescribed and operations performed as may be required. The cases are carefully selected and made use of to impart instruction to the students by means of lectures and special demonstrations. A list of the clinical cases relating to the different classes of animals are recorded under their respective headings, and a number of interesting conditions are embodied as special articles in the report.

EQUINE CLINICS

Number of Animals	Nature of Case	Remarks
17	Dental Cases	Dental treatment
4	Caried Molars	Extraction
2	Split Molar	"
4	Elongated Molars	Molar cutting operation
3	Diseased Molars	Propulsion by trephination
3	Nasal Gleet and Sinusitis	Trephining operation
4	Fistulous Withers	Radical operation
1	Serous Effusion (Thigh)	Surgical treatment
2	Serous Effusion (Withers)	" "
1	Serous Effusion (Sternum)	" "
1	Hygroma (Elbow)	" "
2	Hygroma (Hock)	" "
3	Thoroughpin	Counter irritation
2	Spavin (Bog)	" "
4	Spavin (Bone)	Actual cautery
3	Gonitis	Counter irritation
2	Bowed Tendon	Actual cautery
1	Tendonitis	Counter irritation
1	Arthritis	" "
3	Navicular Disease	Digital neurectomy
1	Coffin-joint Lameness	Counter irritation
2	Side-bone	" "
1	Fetlock Wound (Infected)	Antiseptic treatment
2	Volar Flexion	Surgical operation
1	Abrasion of the Hocks	Antiseptic treatment
2	Calk Wounds	" "
2	Verrucose Dermatitis (Grease)	Operative treatment
2	Granuloma	" "
1	Papilloma	" "
2	Tumor of Eye	" "
1	Tumor of the Testicle	" "
2	Osteoma (Mandible)	" "
1	Tumor (Cervical region)	No treatment attempted
4	Shoulder Tumor	Surgical treatment
2	Melanotic Tumor	" "
4	Poll Evil	Radical operation
2	Calk Wound	Antiseptic treatment
9	Laryngeal Hemiplegia	Surgical treatment
1	Cold Abscess	" "
1	Abscess (Mandible articulation)	" "
1	Anal Fistula	" "
17	Wounds	Antiseptic treatment
1	Fracture (Costal with Fistula)	Operative and antiseptic treatment
3	Thrush	Antiseptic treatment
5	Castration	Surgical operation
5	Cryptorchid	" "
1	Congenital Hernia	" "
2	Nymphomania	" "
1	Congenital Deformity (Foreleg)	Compression bandages

EQUINE CLINICS—*Continued*

Number of Animals	Nature of Case	Remarks
1	Sterility	Genital treatment
3	Omphalophlebitis (Navel Ill)	Medicinal and biological treatment
1	Persistent Urachus	Antiseptic treatment
1	Retained Placenta	Manual removal
1	Congenital Weakness	Hygienic measures
2	Inco-ordination of Movement	Medicinal treatment
2	Colic	“ “
1	Volvulus of the Bowel	Anodyne treatment
1	Uterine Colic	“ “
2	Impaction Colic	Stimulative treatment
1	Azoturia	Medicinal treatment
10	Enzootic Cough	“ “
1	Hydrocele	Operative treatment
	Examination for Soundness	Student exercises
	Clinical Examinations	“ “
	Administration of Medicines	“ “
	Local and Regional Anaesthesia	“ “
	Point and Line Firing	“ “
	Inguinal Exploration	“ “
	Bandaging Technique	“ “
	Surgical Landmarks	“ “
	Tenotomy Technique	“ “
	Neurectomy Technique	“ “
	Post-mortem Technique	“ “
	Restraint	“ “

CATTLE CLINICS

38	Sterility	Manual and antiseptic treatment
2	Vaginitis (following Dystokia)	Antiseptic and surgical treatment
2	Endometritis	Antiseptic and medicinal treatment
1	Cervicitis	Antiseptic treatment
1	Diagnosis of Estrum	Digital examination
19	Diagnosis of Pregnancy	Positive (12), Negative (7)
1	Persistent Hymen	Digital examination
1	Impotency in a Bull	Seminal examination
1	Relaxed Sheath	Surgical operation
6	Uterus Speciments (4 gravid)	Demonstrations of placental structures
2	Mummified Fetus	Artificial abortion
5	Mammitis	Medicinal treatment
5	Occlusion of the Orifice of the Teat	Surgical treatment
2	Chafed Udder	Antiseptic applications
1	Hemorrhage of the Udder	Cold antiseptic applications
4	Dystokia	Manual handling
4	Abortion	Isolation and antiseptics
48	Bleeding Demonstrations	Agglutination test
2	Parturient Paresis	Intravenous medication
7	Supernumerary Teats	Surgical removal
3	Teat Tumor	“ “
2	Posterior Paralysis	No treatment attempted
4	White Scours	Medicinal treatment
2	Gastroenteritis	“ “
3	Rumen Engorgement	“ “
3	Indigestion	“ “
2	Tympanites	“ “
2	Inappetence	“ “
1	Foreign body in the Rumen	Surgical operation
3	Depraved Appetite	Medicinal and dietary correctives
1	Laryngeal Stenosis	Demonstration case
1	Chronic Laryngitis	Counter irritation
2	Bronchitis	Medicinal treatment
2	Bronchopneumonia	“ “

CATTLE CLINICS—*Continued*

Number of Animals	Nature of Case	Remarks
1	Coughing Paroxysms	Medicinal treatment
1	Parotitis	“ “
1	Pyemia	“ “
5	Necrophorous Infection (Foot)	Surgical and antiseptic treatment
2	Tumor	Surgical operation
1	Spinal Abscess (Paraplegia)	No treatment attempted
1	Exostosis (Tarsal articulation)	Counter irritation
2	Abscess (Facial region)	Surgical treatment
1	Abscess (Rumenotomy wound)	“ “
2	Actinomycosis (Tongue)	Potassium Iodide treatment
1	Actinomycosis (Pharyngeal)	No treatment attempted
1	Actinomycosis (Mandible)	“ “ “
1	Actinomycosis (Facial)	Surgical treatment
2	Actinomycotic Abscess (Facial)	“ “
7	Retained Placenta	Manual and antiseptic treatment
3	Traumatic Pericarditis	No treatment attempted
16	Castration	Surgical operation
9	Inoculations T.B. Test—Diagnostic	8 Negative, 1 Positive
12	Inoculations—Protective	For Hemorrhagic Septicemia
81	Inoculations—Protective	For Blackleg
	Restraint Technique	Student excercises
	Clinical Examination	“ “
	Administration of Medicine	“ “
	Caudal Anaesthesia	“ “
	Intradermal Injection	“ “
	Sterility Technique	“ “
	Bleeding for Agglutination	“ “
1	Tuberculosis of Mediastinum	Post-mortem Examination
1	Blackleg	“ “
3	Hemorrhagic Septicemia	“ “
1	Spinal Abscess	“ “
1	Spinal Meningitis	“ “
1	Bronchopneumonia	“ “
1	Pyemia	“ “
2	Traumatic Pericarditis	“ “
2	Nephrolithiasis	“ “
1	Uremia (Rupture of Bladder)	“ “

SHEEP CLINICS

1	Laryngitis and Bronchitis	Medicinal treatment
1	Carpitis	No treatment
1	Chorea (Congenital)	“ “
1	Rheumatic Arthritis	“ “
2	Vaginal Prolapse	Surginal treatment
1	Intermandibular Abscess	“ “
1	Tympanites	Medicinal treatment
1	Dystokia	Manual handling
1	Dystokia	Caeserian section
2	Pneumonia and Pericarditis	Post-mortem examination
1	Uremic Poisoning	“ “
2	Generalized Infection	“ “
3	Fatty Degeneration of Liver	“ “
4	Parasitism	“ “
1	Hemorrhage (Docking)	“ “
1	Taeniasis	“ “

SWINE CLINICS

Number of Animals	Nature of Case	Remarks
4	Castration	Surgical operation
2	Mammitis	Medicinal treatment
5	Scrotal Hernia	Surgical operation
7	Cryptorchid	“ “
2	Prolapse of Rectum	“ “
1	Rachitis	No treatment
4	Hermaphrodism	Surgical operation
1	Infected Ranula	Surgical treatment
2	Umbilical Hernia	Surgical operation
2	Dystokia	Uterine stimulant
2	Dermatitis	Medicinal treatment
1	Hydrocele	Surgical treatment
1 litter	Scour	Medicinal treatment
2 litters	Anemia	“ “
1 lot	Mange	Parasitic treatment
2	Generalized Peritonitis	Post-mortem examination
1	Parasitic Pneumonia	“ “
5	Intestinal Parasites	“ “
2	Nutritional Deficiency	“ “
3	Gastroenteritis	“ “
2	Enteritis	“ “
2	Generalized Infection	“ “

SMALL ANIMAL CLINICS—DOGS

61	Ovariectomy	Surgical operation
2	Injury (Toe)	Surgical treatment
3	Injury (Leg)	“ “
1	Injury (Ear)	“ “
1	Injury (Costal)	“ “
1	Vaginal Cyst (Prolapse)	“ “
4	Castration	Surgical operation
3	Taeniasis	Vermicidal treatment
6	Ascariasis	“ “
3	Sarcoptic Mange	Parasitic treatment
4	Follicular Mange	“ “
1	Fracture (Humerus)	Fracture treatment
1	Fracture (Radius)	“ “
1	Fracture (Femur)	“ “
1	Fracture (Ulna)	“ “
1	Ankylosis of the Elbow	No treatment attempted
4	Distemper	Biological and medicinal treatment
4	Chorea	No treatment attempted
1	Jaundice	Medicinal treatment
2	Ranula	Surgical treatment
6	Eczema	Medicinal treatment
4	Proctitis	“ “
2	Sinusitis	Surgical treatment
2	Gastritis	Medicinal treatment
2	Corneal Opacity	“ “
1	Opacity of Crystalline Lens	No treatment
2	Corneal Ulcer	Medicinal treatment
1	Prolapse of the Eyeball	Surgical treatment
2	Conjunctival Tumor	“ “
1	Diseased Eye	“ “
1	Hematoma of the Ear	“ “
3	Infection of the Ear	Antiseptic treatment
1	Tumor of Epidermis	Surgical removal
2	Tumor (Cervical)	“ “
3	Tumor (Mammary)	“ “
1	Tumor (Hip) Lipoma	“ “

Small Animal Clinics—Dogs—*Continued*

Number of Animals	Nature of Case	Remarks
1	Tumor Carcinoma	Surgical treatment
1	Tumor Prostatic	" "
1	Tumor Inguinal	" "
2	Inguinal Hernia	Surgical operation
2	Dystokia	Caesarian section
1	Gastrohysterectomy	Surgical operation
1	Balanitis	Antiseptic treatment
6	Caudal Amputation	Surgical operation
2	Supernumerary Claws	" "
2	Infection of Anal Pouches	" "
2	Alopecia	Medicinal treatment
1	Paraplegia	" "
2	Pyorrhea	Dental treatment
1	Oedema of the Foot	Bandaging
1	Brachial Paralysis	No treatment
6	Humanely Destroyed.	
	Demonstrations of Breed Characteristics and Conformation.	

CATS

Number of Animals	Nature of Case	Remarks
12	Castration	Surgical operation
9	Ovariectomy	" "
2	Infected Wounds	Antiseptic treatment
1	Tumor (Lip)	Surgical removal
1	Abscess (Cervical)	Operative treatment
1	Perineal Dermatitis	Medicinal application
2	Pruritis	Medicinal treatment
1	Ascariasis	Vermicidal treatment
1	Erythema	Medicinal treatment
1	Fractured Pelvis	No treatment
1	Amputation (Toes)	Surgical operation
1	Necrotic Enteritis	Medicinal treatment

REPORT OF THE COMMITTEE MAKING A SURVEY ON MINERAL DEFICIENCY

DISEASES IN CATTLE

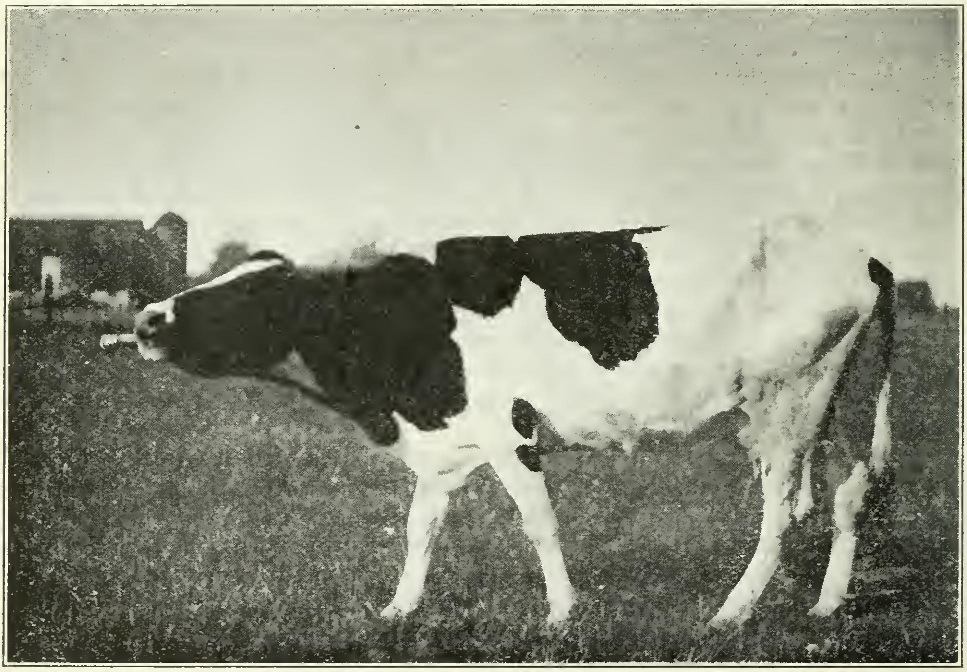
R. A. McIntosh, M.D.V., B.V.Sc.

Owing to the prevalency of certain deficiency diseases in cattle during the past season it was felt that a preliminary survey of the province should be made for the purpose of determining the conditions under which such diseases occurred, their extent, character and causative factor. Accordingly a committee representing both the Ontario Agricultural College and the Veterinary College was appointed. The committee was composed of H. L. Fulmer of the Chemistry Department, G. E. Raithby of the Animal Husbandry Department and R. A. McIntosh of the Veterinary College.

In making the survey agricultural representatives of various counties and practising veterinarians of certain districts were visited and interviewed regarding inquiries they might have had referable to such diseases. Visits to farms where the cattle were known to be affected were made to obtain detailed information as to the character of soil, the length of time evidence of the disease had existed, the character of the food provided for the animals, the method of feeding the animals in which the condition first occurred and the time of the year when it became obvious. The nature of the symptoms manifested was noted and blood samples from representative affected animals were taken for calcium and phosphorus readings. Samples of grain and roughage were obtained for chemical analysis from farms on which the disease occurred in a marked form. Other information regarding stiffness in young pigs and goitre of the newborn was also noted.

The counties in which farm places were visited and livestock examined were as follows: Wellington, Grey, Bruce, Huron, Haldimand, Waterloo, Wentworth, Elgin, Northumberland, Hastings, Lennox and Addington, Grenville, Carleton, Renfrew, Lanark, Peel, Ontario and Victoria. Upwards of sixty herds representing approximately 1,500 cattle were examined in certain districts of the above-mentioned counties. In the township of Erin of Wellington county it was found that a considerable percentage of the cattle were affected. Rainham township of Haldimand was another area where possibly 50 per cent. of the cattle were more or less manifesting symptoms of deficiency disease. Tyendinaga and Richmond townships of Hastings and Lennox and Addington counties respectively was another area in which the disease was found to exist to a marked degree. In a number of the other counties of the province through interviews with veterinarians it was learned that the condition was quite prevalent in places which could not be visited on account of the lack of time. The prevalency of the condition was also revealed by the fact that while driving through the country quite often individuals of herds grazing in pastures adjacent to the roadway would be noticed chewing at sticks, bones and other foreign material.

Through this investigational work much was learned regarding the conditions under which these deficiency troubles occur. The extent of the area investigated is already indicated by the counties in which herds of cattle were examined. To the south the extreme was in the counties of Elgin and Haldimand, to the north Grey and Simcoe, to the west Huron and Bruce, to the east Carleton and Dundas. From the information gained by the survey it is evident that there is less of this complaint in the eastern extremity of the province along the valleys of the Ottawa and St. Lawrence rivers. It is not safe to assume, however, that the difference in the character of the soil is altogether responsible for the fewer number of complaints for the methods of herd management differs to a considerable degree to that in other parts of the province. In these areas cows are kept mainly for the production of milk for the manufacture of cheese, and the cheese making period lasts from spring until fall. Consequently the farmers endeavour to have their cows freshen in the spring and as soon as the cheese making period is over they dry them off. For this reason the drain on the mineral elements from the cow is not so great at the time when depletion is most likely to occur. In other parts of the province dairy production is continued throughout the year and cows which milk through the winter stabling period are much more likely to suffer.



Five year old cow, on pasture, milking, chewing bone.

Visits were usually made to farms where it was known that there was some indication of the trouble and when the farmers were asked if their cattle were showing depraved appetite they answered in the affirmative. In some instances they stated that practically all of the animals in their herds were showing signs of depraved appetite. On occasions farms were visited where no complaint had been made and even these farmers would admit of noticing an occasional animal chewing at foreign material. Probably the most severely affected area was in the township of Rainham, Haldimand County. Depravity of appetite and stiffness in affected animals was very marked. Calves had chewed through inch boards which were used as partitions between mangers. Cows were seen chewing wood, bones and other foreign material while on pasture. Other individuals were so stiff that they remained by themselves rather than forage around with the herd, some of them not even leaving the barnyard.

Cow chewing wood. Note the emaciation of the one lying close by the fence.

Seven year old cow, milking, manifesting depravity of appetite by chewing wood.

Regarding goitre of the newborn and hairless litters of pigs, 40 per cent. of the farmers visited indicated that they had at one time or another experienced this trouble. One farmer in Grey county had nine calves affected in the spring of 1931. This indicates the prevalence of iodine deficiency. Another condition which occurred in young pigs during the past season with extraordinary frequency was stiffness. Many complaints of this nature were recorded and many losses were reported.

When farmers were asked as to how many years back they had noticed depravity of appetite in their cattle a great variety of answers were received. The average was 7 years, but such answers as a long time, many years, 40 years, 25 years and 10 years were not uncommon. The consensus of opinion was, however, that this past year was very bad and many livestock men had not noticed it before. In the opinion of the committee there has been a lack of recognition of the condition, for when closely questioned farmers would quite often give certain information which would reveal that the disease had existed for some time without them knowing it. It is felt, however, that the methods adopted at the present time, by keeping high producing dairy cows and closely housing them during the colder seasons of the year, tends to aggravate the condition. The same feature applies to young growing stock. Furthermore, repeated cropping and pasturing of land from which food is provided favours the occurrences of such diseases as the years go by, through a depletion of mineral elements from the soil.

Young milk cows, high producing cows, pregnant cows and calves are the animals in which depravity of appetite is first manifested. All farmers were agreed on this point. This, of course, is a logical answer for under those circumstances a greater drain of mineral elements is taking place and consequently such animals suffer first. On a few occasions it was noticed that cows which were milking well, even though they were in good flesh and being fed a fair ration, would chew at foreign material.

When questioned as to whether they were doing anything to overcome the condition it was learned that most farmers were feeding mineral mixtures, bonemeal, or stock tonics. It was usually learned, however, that they did not start using such preparations until the condition was noticed and then only in small amounts. Many of them complained of the cost of mineral mixtures but admitted that both bonemeal and the minerals helped somewhat. Of those who used the so-called stock tonics scarcely any of them felt that any benefit had been derived from such preparations. Only a small number provided iodized salt for their animals. The most favourable result had been obtained from bonemeal and chiefly in those instances where the feeding of it was made a routine measure throughout the stable feeding period. It would appear as if bonemeal and iodized salt are the most satisfactory mineral supplements to the ordinary ration.

As to the time of the year when the condition is most prevalent, the majority of farmers admitted that the latter part of the winter and the spring when the cattle were first turned out was the time when they noticed the condition at its worst. Only a few contended that it started while the cattle were on pasturage. This information is in keeping with the idea that mineral starvation is more likely to occur during the winter stabling periods while cows are closely housed and fed a limited ration. Cattle when first turned out in the spring are often ravenous for minerals and will be found eating dirt, rotten wood, leather, bones, and other foreign objects. Quite often when eating such material a nail or a piece of wire may be swallowed which may penetrate the walls of the stomach and migrate to the heart causing a fatal disease known as traumatic pericarditis.

The nature of the pasturage provided throughout the areas investigated consists of natural grasses, alfalfa, red clover, alsike, sweet clover and blue grass. Two interesting facts were learned in regard to pasturage. Much of the pasture land in the township of Rainham, Haldimand county, was blue grass and much of the roughage provided in the winter for the cattle is threshed blue grass hay and this was one of the areas in which mineral starvation was very bad. Whether this has any significance or not remains to be proven. On another occasion a herd of 19 young Jersey heifers, all under two years of age, had been placed in a field of sweet clover and their diet was confined to it alone. They had been well wintered and were turned out in good shape. Plenty of iodized salt and water were available but after about two weeks on this pasture these animals manifested depravity of appetite by chewing at the fence posts around the field and licking dirt. There was no lack of pasturage but it was evident that a sole sweet clover diet is not sufficient to meet the requirements of the animal body. This was one instance in which depravity of appetite developed while the animals were on pasture.

Four year old cow, in fair condition and milking well, showing signs of mineral starvation by chewing at leather.

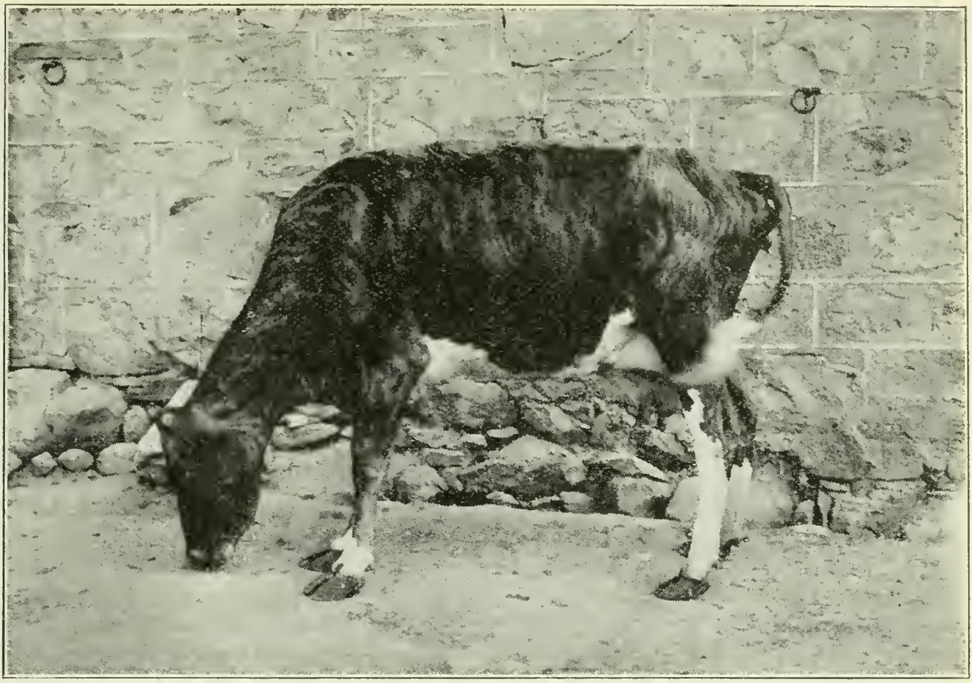
Regarding the food provided for cattle during the winter. Roughage consisted of alfalfa, the clovers, timothy, threshed blue grass, hay, silage, straw and roots, as a whole. Not all varieties of roughage mentioned were available in all areas investigated but conformed to the hay crops which can be readily and economically grown in the different counties. The grain ration when provided was mostly ground oats and barley. A few farmers supplemented these grains with bran and oilcake. An important feature regarding the grain ration is that mineral starvation is not nearly so marked in herds where farmers provide bran, oilcake and other mill feeds to supplement their own grain. The more limited the diet the more likely depravity of appetite is to occur and, on the other hand, if it is sufficiently varied in character to meet the requirements of the animal body it is only seen to a minor extent.

In making this survey it was felt that a question relative to the nature of the soil on places where the disease was known to occur would be of considerable importance but such did not prove to be the case, for it was found to exist on farms with soils of totally different character. Of the farms visited 30 were clay loam, 13 heavy clay, 15 sandy loam and 14 gravelly loam. In Rainham township, Haldimand county, the soil is all heavy clay and 12 out of 14 tests were acid in reaction. In Bruce county where depravity of appetite is quite prevalent soil reaction is largely alkaline. In Rainham township the land is level and flat. In Erin township of Wellington county the land is hilly, rough and broken with limestone cropping up through surface soil in many places. In the townships of Tyendinaga and Richmond of Hastings and Lennox and Addington counties respectively the soil is underlaid with great level terraces of limestone. It is evidently not so much a question of soil character as it is of soil depletion, for of the farms visited only a few use artificial fertilizers. Those farmers who did applied it chiefly to their wheat ground.

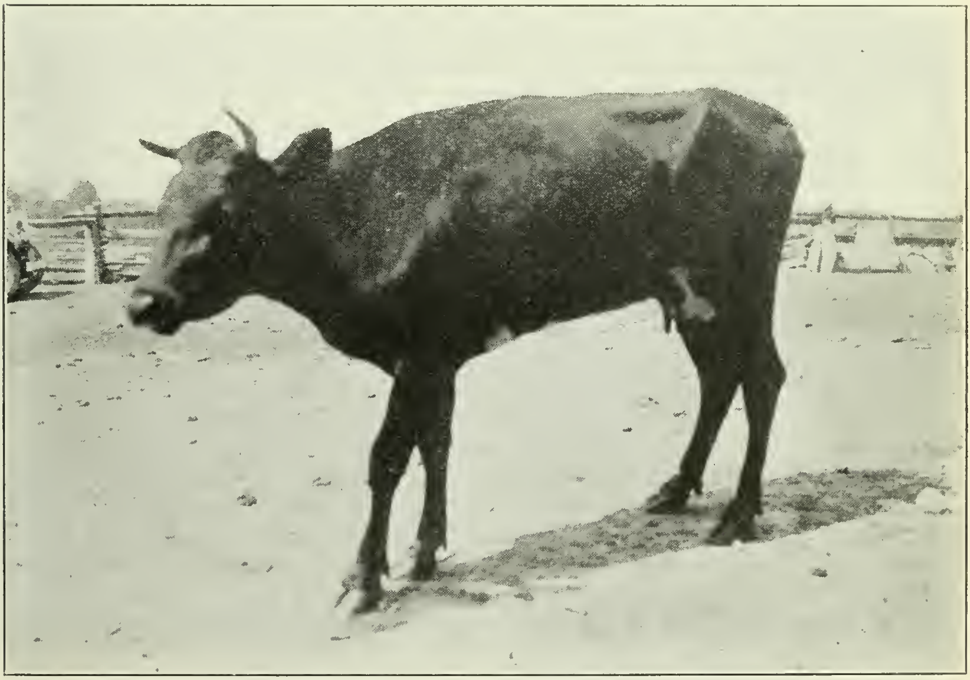
The Nature and Character of the Disease

Depraved appetite or pica, and stiff-sickness or osteomalacia are conditions which have been recognized for a long time. In central European countries records of diseases of this nature occurring in the years 1778 and 1783 are available. Since those times reports from Asia, Africa, Australia and New Zealand indicate that deficiency problems are prone to appear where intensive animal production obtains. In various parts of the United States diseases of this nature are relatively common. While these conditions have for some time been understood as deficiency problems, nevertheless it is only within recent years that the causes are becoming definitely known and even yet many biochemical processes in the animal body which are related to the occurrence of such diseases are not understood.

It is now generally accepted that these diseases are due to a lack of the mineral elements, calcium and phosphorus, or to a lack of the factors responsible for their assimilation. It is impossible to disassociate these two elements in their body functions for by far the greater amount of calcium in the body is in the form of a phosphatic salt. This fact is well illustrated in an analysis of the inorganic material in bone where it is found that 85 per cent of these solids are calcium phosphate. The calcium in the blood stream occurs as a tertiary phosphate. With this knowledge it can be understood how readily deficiency conditions may occur as a result of a lack of phosphorus or calcium or both. It is only when the importance of these elements in many body functions and physiological processes are made known that the result of a deficiency in them can be appreciated. Calcium-ions are absolutely necessary for the normal tonus and for the spontaneous rhythm of organs with smooth muscle, for the normal activity of epinephrine and the parathyroid. Calcium modifies heart contraction and blood pressure, it lessens cell permeability and consequently transudation phenomena. Removal of calcium produces changes of the reflex excitability in the nervous ganglia and of the excitability of peripheral nerves. Thus calcium-ions



Depravity of appetite manifested by licking dirt. Aged cow.



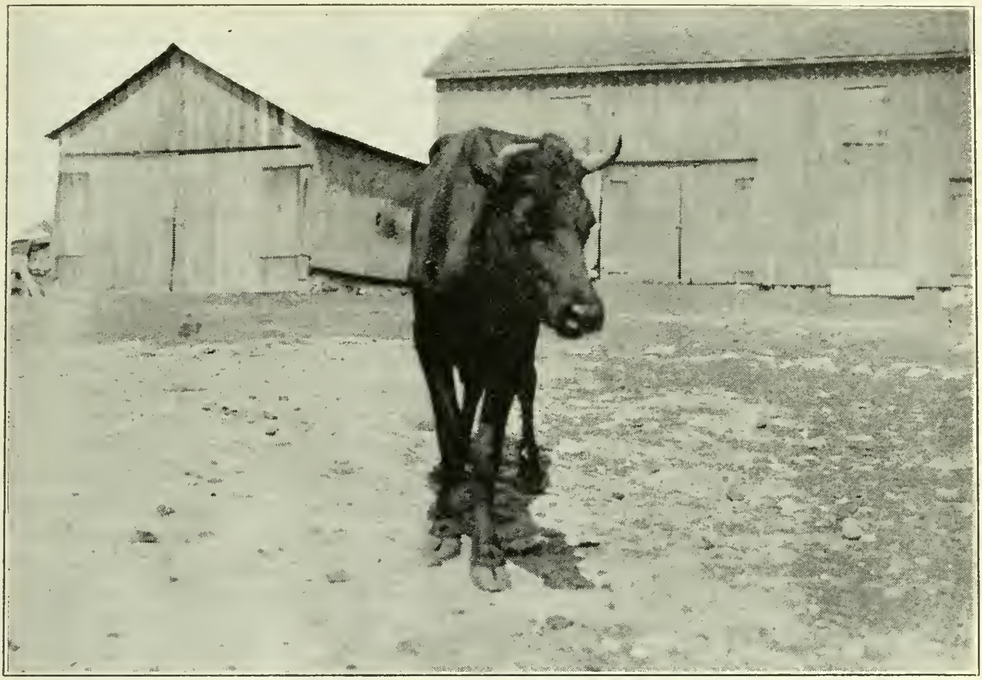
Four year old cow. Advanced case of mineral starvation. Side view.

may be regarded as the physiological regulators of the nervous system. Calcium and phosphorus are present in the body in varying amounts as an integral part of every living tissue and fluid, not in an immobilized form or forms, but as actively metabolizing elements participating as far as we know in all physiological processes of all organs. The very large deposit of calcium in the bony system—99 per cent of the whole calcium content of the body—serves not only the passive purpose of skeletal support, but as active reserve from which calcium goes forth through the blood to supplement the cell calcium, if for any reason the latter falls below the minimum requirement of nature. Calcium metabolism is not an occasional affair, but as constant a process as, for instance, protein metabolism.

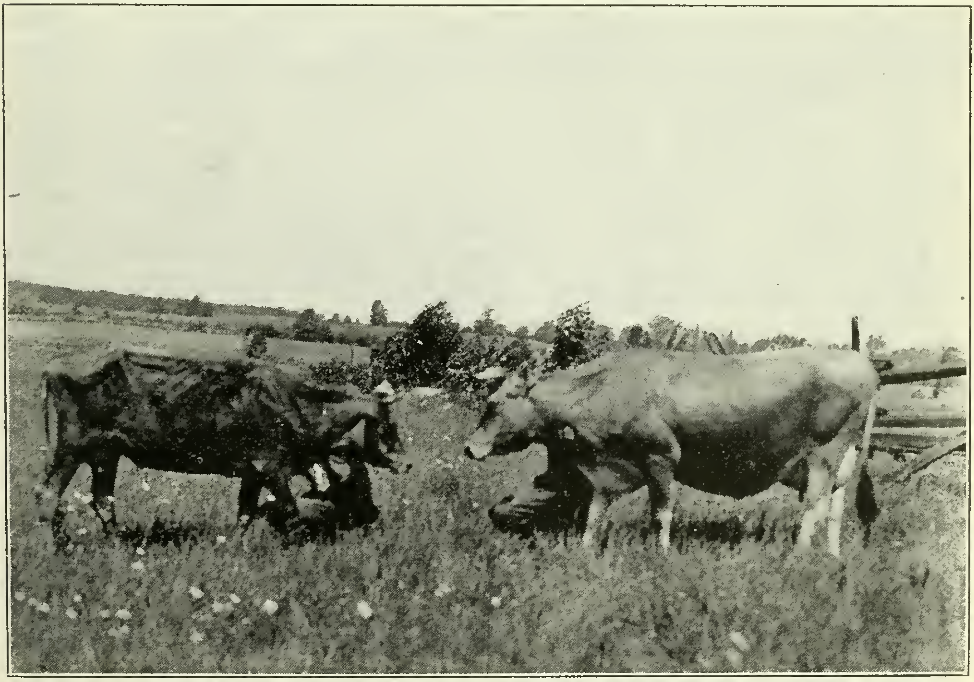
All domestic animals and poultry may suffer from diseases brought about through a deficiency of these elements. On Ontario farms it is most frequently observed in cattle and swine. It is probable that phosphorus is more often lacking than calcium but in either case the ultimate effect is the same. The reasons for the occurrence of these deficiencies may be the result of a lack of the elements in the food provided, or a lack of the factors responsible for their assimilation, such as the vitamin, or by animals being too closely housed and not allowed out in the sunshine and open air. Pregnancy, lactation and the rapid growth of young animals causes a greater drain of these elements, and deficiencies are more commonly experienced under those circumstances. Usually at the completion of the pasturing period in the fall animals do not show any signs of the trouble, for while they are on the grass, out in the open and exposed to the sun's rays these elements are easily assimilated and stored up in the body. When, however, they are stabled in the fall and stall feeding operations are commenced the reserves of these elements may be used up and the animals after a time commence to manifest symptoms of the depletion of their reserves.

A certain minimum of metabolic calcium is indispensable for the maintenance of life, so that if on account of insufficient intake or of excessive demand the calcium of the body cells especially, and sometimes also of the fluids, falls below the minimum, then serious consequences impend. A very efficient mechanism exists in the body for calcium regulation dominated as to fixation by the so-called vitamin D, and as to mobilization by the parathyroids. The parathyroids cannot function normally without a sufficient amount of calcium. Therefore it can be realized that if anything occurs such as a lack of the vitamin or calcium and phosphorus, of if there is too great an output of these elements derangements are likely to follow.

Through long continued cropping and repeated pasturing soils become deficient in the elements phosphorus and calcium. This lack is reflected in the roughage and grain produced and ultimately the animal consuming such food suffers. Dry seasons tend to aggravate the occurrence of these deficiencies. Animals suffering from a slow depletion of these elements at first manifest symptoms of lethargy, sluggishness and unthriftiness. They appear dull and if lactating the quantity being secreted will diminish. Calves will be noticed licking at wood, sucking leather, cloth or anything they may get hold of. These symptoms indicate that they are craving for something they are not getting and if means are not taken to supply it the depravity of appetite becomes more marked, so when they are turned out they chew wood, bones, leather and other foreign material. The cow advanced in pregnancy or milking heavily and the young growing animals will probably be the first members of the herd to show these symptoms. It is a slow insidious process and ultimately all of the available reserves of these elements in the body are used up and the abstraction of calcium



Four year old cow, advanced case. Front view. Note the thin body.



Contrast—Affected animal on the left, 3 year old Jersey heifer, milking.
Healthy animal on the right, aged Jersey, not milking.

from the bones takes place. At this stage the disease assumes a more serious character for with the removal of calcium and phosphorus from the bones they become painful, animals get stiff, lame and reluctant about moving. Other body functions are impaired, then appetite is affected and they lose flesh rapidly. The bones become soft, are easily fractured and take on deformities. Finally an animal may go down and be unable to rise. In adult animals the term applied to this condition is osteomalacia. In young animals it is spoken of as rachitis or rickets. The specific gravity and mineral content of osteomalacia bones is low, in some instances only one-half what it should be. The calcium and phosphorus content of other tissues and fluids of the body is also low or unbalanced.

In swine rachitic-like symptoms most frequently appear after the young pigs are weaned at about the age of 2 or 3 months. They will sometimes show depravity of appetite by chewing at unnatural material and by fighting and chewing at each other. Convulsions are also relatively common in young pigs and will often be noticed at the time when they are fed. These convulsions are in the form of a tetany from which the animal may recover in a short time, although occasionally they die. Such symptoms are prodromic and indicate a deficiency which ultimately leads to bone disease. The aching of the bones which occurs before changes in shape are in evidence causes stiffness and the animals refuse to move except when forced to or at feeding time. They lie much of the time huddled in their bed and if forced to move squeal, indicating pain. Some of them ultimately become so badly affected they are hopeless cripples and the condition is often spoken of as rheumatism. While the symptoms are of a rheumatic character the disease is not. Adult pigs are not so frequently affected but undoubtedly some cases of posterior paralysis in sows is due to a deficiency.

In its course the disease is insidious in its nature, coming on slowly and gradually increasing in its intensity. Young animals, because of a greater calcium and phosphorus requirement, will manifest symptoms more quickly than older mature animals. As long as the manifestations of the disease are confined to depravity of appetite the animal will usually recover in a reasonably short time if the proper means are taken to correct it, but when they become stiffened restoration of the mineral reserves is a slow process and often takes months for them to recover, leaving some of them with permanent skeletal deformities The recognition of a calcium and phosphorus deficiency is relatively easy for when animals do not thrive and manifest a craving for minerals by licking and chewing at wood, bones, leather, dirt and other foreign material the condition is obvious.

In Great Britain and South Africa these deficiencies have been noticed occurring while the animals are pasturing and ranging. From the information obtained in this survey the evidence is that it occurs as a stable feeding deficiency in Ontario much more frequently than as a pasture deficiency. In a few instances where pastures were very poor there has been some indication of forage deficiency.

While conducting this investigation the committee endeavored to determine the element or factor responsible for the condition in Ontario. Although not proven, the evidence points very definitely to a phosphorus deficiency. As one tours through the province and sees the remarkable crops of legumes, in the form of alfalfa, red clover, sweet clover and alsike one cannot help but be impressed with the thought that there is little likelihood of a calcium deficiency since legumes do not grow well on lime deficient soils. Furthermore, much of the bed rock in Ontario is limestone, outcroppings of which may be seen in many parts of the country. The soil is largely alkaline in reaction which again indicates plenty of lime. According to the data the roughage and pasturage provided for cattle has been of a character which is rich in calcium. This fact does not obtain as far as the element phosphorus is concerned. The legumes only have moderate amounts of phosphorus and other forms of roughage mentioned only small amounts. The grains (namely, oats and barley) which are preponderant in the concentrate ration mentioned are relatively poor in both calcium and phosphorus. Furthermore, it has been determined that those farmers who were supplementing their grain ration with bran, oilcake, other milled feeds and bonemeal (which are all rich in phosphorus) did not experience the difficulty at all or else only to a minor extent. The claim that it is a phosphorus deficiency particularly in adult cattle is also substantiated in the fact that the administration of dilute phosphoric acid corrects the condition more quickly than any agent we have recommended. In the acid, phosphorus exists in a very soluble form and apparently supplies the need in the animal body promptly. In some instances where calves are manifesting depravity of appetite vitamin D may be lacking. With young pigs which have stiffened it is also probable that vitamin D is wanting for the condition can be prevented and corrected by the use of cod liver oil. In comparing the information obtained regarding this condition with that of other countries where phosphorus deficiencies have been known to occur, the similarity is striking.

Samples of blood were taken for calcium and phosphorus determination.

Blood normals of dairy cattle for calcium (Ca) and inorganic phosphorus (P) in milligrams per 100 c.c. of blood:

British Columbia results—21 animals (dairy cows and heifers), 64 determinations—
Ca—Average 10.59. Extremes 8.7 to 12.8.
P —Average 4.18. Extremes 2.67 to 6.7.

Australian results—29 animals (cows), 29 determinations—
Ca—Average 10.54. Extremes 9.38 to 12.92.
P —Average 4.44. Extremes 2.5 to 6.67.

New York State results—14 dry cows, 124 determinations, monthly tests from April to December—
Ca—Average 10.72.
P —Average 6.25.

Twenty-three milk cows, 210 determinations, monthly tests from April to December—
Ca—Average 10.77.
P Average 4.65.

The above figures are the results of calcium and phosphorus determinations in normal and healthy animals.

In the tests which were made in connection with this survey only 5 tests were obtained of normal animals from a herd in which there was no evidence of deficiency disease. These may be used as a check in comparison with the determinations made from blood of diseased and apparently normal animals in affected herds.

Ontario—5 cows, 5 determinations—
Ca—Average 11.62. Extremes 10.00 to 12.4.
P —Average 3.54. Extremes 2.53 to 4.22.

The following are the readings of all the samples taken:

No.	Owner	County	Condition of Animal	Calcium Mgr. per 100 c.c. of blood serum	Phosphorus Mgr. per 100 c.c. of blood
1.	Schwanett	Waterloo	Stiff and thin	12.2	4.3
2.	“	“	Apparently normal	10.0	3.03
3.	Darroch	Bruce	Affected	7.8	2.56
4.	“	“	Apparently normal	11.6	1.92
5.	McEvery	Wellington	Stiff and thin	11.5	2.15
6.	“	“	Apparently normal	10.2	4.15
7.	Beswick	“	Stiff and thin	11.2	1.07
8.	Sitter	Haldimand	“ “	11.6	2.33
9.	Rhora	“	“ “	11.2	4.98
10.	Rutherford	“	“ “	12.1	3.84
11.	Nablo	“	“ “	13.9	4.13
12.	Cusler	“	“ “	7.9	4.44
13.	Fess	“	“ “	10.85	2.5
14.	Keifer	“	“ “	12.3	3.42
15.	Hammer	Waterloo	Emaciated	13.2	3.27
16.	Smith	Elgin	(Jersey heifers) Chewing wood	11.2	6.42
17.	“	“	“ “ On sweet clover pasture	10.7	6.91
18.	“	“	Stiff	11.2	4.58
19.	Beswick	Wellington	“	12.3	2.33
20.	Webb	Hastings	Stiff and thin	12.8	3.66
21.	Sexsmith	“	Cow thin	12.3	3.38
22.	Waterson	Grenville	Chewing wood	11.9	2.58
23.	“	“	“ “	12.2	4.95
24.	O.A.C.	Wellington	Sick	10.4	2.55
25.	“	“	“	10.6	5.18
26.	“	“	Apparently normal	11.7	4.22
27.	“	“	“ “	11.7	3.98
28.	“	“	“ “	10.0	3.93
29.	“	“	“ “	12.3	3.83
30.	“	“	“ “	12.4	3.88
31.	Grant	Ontario	Chewing wood, thin	11.8	5.13
32.	McNiven	Victoria	Chewing wood	11.8	8.15

Samples from cows No. 2, 4 and 6 were taken from apparently healthy cows in affected herds. Samples No. 16 and 17 from Jersey heifers on sweet clover pasture manifesting symptoms of depraved appetite. Samples 24 and 25 from cows sick with mammitis and diarrhea respectively. Samples 1 and 32 were from animals which had been given phosphoric acid for two weeks. Samples 26 to 30 inclusive from cows in a herd not showing any signs of the disease, in different stages of lactation, and of various ages as a check.

It will be seen according to this table that the calcium readings are much more uniform than those of the phosphorus. Apparently there is nothing to be learned from the phosphorus readings for cows that were apparently normal were often quite as low as those which were diseased, although the average phosphorus readings of affected animals were slightly lower than those of apparently normal cows. These blood analyses, however, neither prove or disprove the claim that the condition may be a phosphorus deficiency, for the proper balance of the mineral elements would probably be maintained in the vital blood stream at the expense of other tissues and fluids of the body.

Conclusions

1. That mineral starvation manifested by depravity of appetite, stiffness and emaciation is more or less prevalent throughout the whole of what is known

as old Ontario, with the possible exception of the Eastern extremity along the valleys of the Ottawa and St. Lawrence rivers.

2. That in certain areas which came under the observation of your committee cattle are seriously affected. These areas centre around the Township of Rainham in Haldimand county, the township of Erin in Wellington county, and the townships of Tyendinaga and Richmond in Hastings and Lennox and Addington counties respectively.

3. That with a few possible exceptions in the above mentioned areas this is a stable feeding deficiency rather than a pasture deficiency in Ontario.

4. That the occurrence of the disease is favoured by an improper balance in winter feeding rations and other poor herd management.

5. That while all the animals in a herd may be affected, cows which are pregnant or milking and young growing stock will suffer first because of their greater mineral requirement.

6. That from evidence obtained in this survey the element phosphorus is the one probably lacking.

7. The average phosphorus determinations of animals suffering from deficiency disease is slightly lower than that of normal cows. The calcium readings are fairly uniform.

The committee desires to express their appreciation for the co-operation, courtesy and kindness of the agricultural representatives, veterinarians and others who were interviewed while making this survey.

REFERENCES

The analytical methods used were: For Calcium, the Clark-Collip modification of the Kramer-Tisdall method, v.d., J. Biol. Chem., 63; 461 (1925); and for Phosphorus, the Fiske-Subbarow modification of the Bell-Doisy method, v.d., J. Biol. Chem., 66: 375 (1925).

NEPHROLITHIASIS IN CATTLE

(R. A. McIntosh, M.D.V., B.V.Sc.)

In the annual report of the Veterinary College of 1930 there was published a report on urinary lithiasis in cattle. In that article information was given indicating that the disease apparently occurred in two forms—one in which stone formation was accompanied by pathological changes in the kidney, in the other, stone formation without evidence of degenerative changes anywhere in the urinary tract, except those which would be secondary to the presence of calculi. In the subsequent college term two more animals suffering from stone formation were submitted to the clinic for examination and treatment. Because of the difference in these latter cases to those previously reported and because of certain observations made the information regarding them is being reported as an addition to that of last year.

Both of these animals were purebred Jersey bulls, one about 10 months old and the other about 7 months of age. They were bred from valuable breeding stock, had been well cared for and suitably fed for young growing stock. When the first case was presented for the clinic he had been ailing for some time and it was learned that calcareous deposits had collected in the sheath. Ultimately through irritation, subsequent inflammation and continued collection of calcareous material the orifice of the sheath was occluded so that urine could not be voided. The sheath had been opened and temporary relief obtained. Later, however, it again closed and urine infiltrated throughout the tissues of the region causing a slough on the left side of the sheath through which urine was escaping. This was the condition which existed at the time the animal was examined. A slight unthriftiness was the only other manifestation of disease.

At that time he was operated on. The animal was cast, locally anaesthetized and the sheath laid open back to the glans penis. The mucous membrane of the sheath had been destroyed and was coated with calcereous material which was firmly adherent to the tissues and involved in exudates and granulation processes of the part. Subsequently it was noticed that he could not urinate normally which indicated stone obstruction farther up the urinary tract. He was kept for a few weeks but again the sheath closed and urine could not escape so it was decided to destroy the animal and make a careful post-mortem examination.

On post-mortem the kidneys were found to be in a process of disease. Almost every lobe of both kidneys was in a state of inflammation with a degenerate centre containing pus and calcareous material. Small vesical calculi were found and the mucous membrane of the urethra showed areas of inflammation where calculi had been lodged. In the glans penis portion of the urethra a collection of small stones were lodged. There were no visible lesions in any other part of the carcass or in the viscera. Tissue specimens of the kidneys were obtained for section and microscopic examination and when examined inflammatory and degenerative processes were noted in the tubules and glomeruli of the organ.

The second case was similar except that the animal was younger and the disease had not progressed so far. Again much of the calcareous material had collected in the sheath although the orifice was not completely occluded. As in the former case the mucous membrane of the sheath was partially destroyed and the calcareous material adherent to the raw denuded surface. In the treatment of this case the sheath was gently curetted until all of the calcareous deposit was removed. Afterwards olive oil containing antiseptics was injected daily into the sheath to protect the raw surface and to assist in the healing process. This gave a measure of relief, for the swelling reduced and the urine voided passed more readily although not normally, for it was evident that obstruction of the urinary tract had occurred in the penis and it came away slowly or dribbled all the time. The slow descent of the urine was in all probability largely responsible for the accumulation of the stone in the sheath and they again commenced to collect in the sheath.

The owners of the animal had conferred with a research worker in human medicine and submitted to him a calculus which he determined to be a calculus formed in an alkaline urine. Accordingly he suggested the administration of an agent which would create an acid urine and thus bring about the solution of these alkaline salts of which the calcareous material was composed. With this suggestion a pound of ammonium benzoate was procured, this agent being credited with being capable of creating an acid urine. The sheath was again carefully curetted and a rubber tube inserted through the orifice so that urine would pass off without lodging in the sheath and by putting a cork in the end of the tube for an hour or two a sufficient amount of urine could be obtained at any time to determine its reaction. On February 24th the experiment was commenced. The following table indicates the dosage of the agent and the reaction of the urine at intervals during that time.

Feb. 24th, reaction alkaline—Dosage 1 drachm three times a day.
" 28th " " — " increased to 1¼ drachms three times a day.
Mar. 2nd " " — " " " 1½ " " " "
" 10th " " — " " " 2 " " " "
" 14th " " — " " " 2½ " " " "
" 17th " " —Supply of drug exhausted.

During the last few days the dosage had been increased to almost an ounce and a half a day. The reaction character of the urine never changed through the entire period. On two occasions the urine appeared somewhat clearer than it did at first but at all times it contained a considerable amount of sediment consisting of calcareous material, renal casts and pus cells. After allowing the animal a couple of weeks rest it was decided to try acid sodium phosphate, for this acid salt is also credited with being capable of causing an acid urine. In the use of this agent much the same plan was followed except that the administration of it was commenced with a much larger dose and maintained throughout. A pound of this salt was used in the course of eight days. Repeated reaction tests of urine did not reveal any perceptible change in the character of it. During the time the animal was being subjected to the treatment he became rather unthrifty and did not eat as well as formerly. The rubber tube was removed from the sheath and in a short time calcareous deposits again occurred in the sheath. Ultimately it was decided to destroy him and make a post-mortem examination. It was anticipated that the kidneys would be in much the same condition as in the former case but to our surprise they appeared normal and no calcareous material was found in them. There were a few small bladder stones and in the glans penis extremity of the urethra a collection of small stones which could not be voided and which were interfering with the passage of urine causing it to dribble away rather than allowing it to flow freely. The post-mortem examination of the second case would indicate that the administration of the phosphatic salt had been of value and had it not been for the stone accumulation in the extremity of the penis that the case might have recovered. The possibility of recovery is in keeping with the following extract from an article published in The Veterinary Journal of London, England, on "The Causation of Stone in India." The article was prepared by Robert McCarrison, Director Nutritional Research, Indian Research Fund Association. The research was conducted with regard to the incidence of stone in the people of India. There is also a reference in the article dealing with stone in cattle which is as follows:

"*Chemical Composition of Cattle Stones.* Cattle stones, as we find them in India, are usually small, round, shot-like bodies, having, when fresh, a light or deep golden-yellow sheen. They may occur in large numbers in the same animal, and their usual location is the urethra. They are made up of thin layers, like the coats of an onion, all layers being of the same composition. Stones occurring in the kidney in cattle do not possess these physical characters; they are usually single, larger, of irregular shape, and are devoid of metallic sheen. But whether occurring in the kidney or in other parts of the urinary tract, their chemical composition is, with rare exceptions, the same. Analyses have been made of twenty-four cattle stones in my laboratory. Their composition has been found to be fairly uniform; calcium carbonate with a little magnesium, the latter presumably also existing as carbonate. In only one of the twenty-four stones was this composition departed from. In this case (a calf) the stone had a relatively high moisture content, a high nitrogen, phosphate, and magnesium content, and a low calcium content; carbonates were not present.

"We have been fortunate in being able to reproduce not only the chemical but the physical (excepting the metallic sheen) characters of cattle stones under experimental conditions in albino rats. Briefly, this is how it was done. The rats were fed on a diet deficient in vitamin A, and containing an excess of lime relative to the amount of phosphate in the diet. By keeping them on this diet for seventy to eighty days, and then supplying the missing vitamin A (in the form of radiostoleum) it was found that of those that survived the process a high percentage had stones of composition and physical characters closely resembling those of cattle stones. Apparently what happens is this: During the first, or vitamin-starvation period, an enormous mass of calcium carbonate debris is deposited in the urinary tract. On supplying vitamin A, but allowing the calcium-phosphate imbalance to remain, the whole (if it be small) or part (if it be large) of the calcium carbonate deposited during the first period is redissolved and dispersed. But in some cases parts remain as isolated collections or grains; and during the second period of the experiment, when vitamin A is provided, these act as foreign bodies, and a layer or layers of calcium carbonate is deposited around them. This is at present a working hypothesis; but we hope by hitting off just the right diet to keep the rats alive long enough, and by alternating the periods of vitamin-want and of vitamin-supply with sufficient nicety, while retaining the calcium-phosphate imbalance, to reproduce these cattle stones with still greater exactitude.

"In chemical composition the stones experimentally produced in rats were identical with the calcium carbonate stones found in Indian cattle.

"Through the kindness of Mr. Hilson, Director of Agriculture, Madras, I have been able to secure reliable information regarding the food of the cattle in parts of the Madras Presidency where cattle stone is prevalent. They are fed on maize, millet, or rice straw, the husks of ground nuts, and the empty pods of legumes. All these fodders are poor in phosphates and disproportionately rich in lime; ground-nut husks, for instance, contain as much as 3.78 per cent. of CaO and only 0.36 per cent. of P_2O_5. After the rains, the cattle obtain much more green fodder, and with it a much-needed supply of vitamin A. Periods of vitamin-want alternate with periods of vitamin-supply, the diet remaining all the while imbalanced with respect to calcium and phosphates. It is notable that the only exception to the rule that cattle stones are composed of calcium carbonate was in a calf, aged six months, which, after weaning, was fed on a diet in which calcium phosphate imbalance was not marked. Strong support is thus lent to the hypothesis above mentioned as to the manner of calcium carbonate stone formation. Our investigations have shown, further, that in the formation of these stones the calcium phosphate imbalance is even more important than the vitamin A deficiency. We find that the incidence of such stones can be very greatly reduced in rats by adding to the vitamin A-poor and lime-rich diet an amount of sodium phosphate sufficient to form, with the excess of lime, insoluble calcium phosphate in the bowel. The further addition of vitamin A completely prevents the disease. I may therefore claim with some reason that the problem of "cattle stone" in India has been solved so far as the laboratory can solve it."

According to this information, stone formation occurs as a result of a lack of vitamin A together with a calcium and phosphorus imbalance and he also mentions the possibility of an infection being a contributory factor. The latter, however, is probably secondary to a devitalized urinary epithelium which renders it more vulnerable to infection.

In so far as the cases of stone formation reported in the last annual report are concerned and also in regard to these two it does not seem possible that there could be a vitamin A deficiency. A calcium and phosphorus imbalance is admitted for the rations supplied are rich in calcium and there is quite a possibility of phosphorus lacking. McCarrison indicates in his article that by adding to the vitamin A-poor and lime-rich diet an amount of sodium phosphate that stone formation can be prevented to a considerable degree. It may be that the administration of the acid sodium phosphate will be even more active in this respect in the prevention of any further precipitation of calcareous material after which that already formed is carried off. At any rate the evidence in this case where the acid salt was used indicates that the urinary tract was practically rid of stone. It is quite possible that the administration of this salt to animals showing a tendency toward stone formation will prevent and correct the condition.

DEPARTMENT OF BACTERIOLOGY

The work carried on in this department may be conveniently considered under the following headings: tutorial, routine, research, and investigatory.

Tutorial.—In both lectures and laboratory work the fundamental facts of the sciences being studied by the student are, as far as possible, presented in a manner which makes them something more than data to be memorized and stored in isolation until the day of examination and then forgotten. The methods employed in teaching have as their objective the awakening and development of the mind, more than the memory, and the unification and synthesis of the knowledge acquired rather than the unprofitable accumulation of isolated facts.

Routine.—The routine work of the laboratory consists chiefly in the diagnosis of diseased tissues, the making of post-mortem examinations, and the preparation of the abortion bacterin.

Research and Investigatory.—Most of the work of this nature which has been undertaken during the year is described in the following reports.

REPORT ON A DISEASE OF GOATS CHARACTERIZED BY CHOLECYSTITIS AND INFECTION WITH *SALMONELLA SCHOTTMULLERI*

(F. W. Schofield, D.V.Sc.)

The disease which is the subject of this report has caused serious mortality during the past two years in a valuable herd of milch goats. There have been two distinct outbreaks of the disease, both of which occurred while the goats were pasturing in an old orchard and eating large numbers of green apples. The owner attributed the disease to the consumption of the apples, but careful investigation shows that there is little evidence to warrant such a conclusion.

Apart from the interest in recording what we believe to be a hitherto undescribed disease of goats, there is the added significance of an infection among milch goats with an organism apparently identical with the *S. schottmulleri* which is responsible for paratyphoid infection in man.

NATURE AND SYMPTOMS OF THE DISEASE

The disease is usually of a subacute or chronic nature persisting for several weeks or even months, and is devoid of symptoms which might be considered as diagnostic. The disease is usually ushered in with a mild attack of diarrhea which lasts for a few days only, when the bowel movements again become normal, remaining so until a few days before death. A slight serous discharge from the eyes and nose is frequently observed. From the beginning the appetite is poor and complete anorexia is common. Affected animals lose flesh rapidly and become greatly emaciated before death. There is a sudden and almost complete cessation of milk flow. Although a number of observations have been made on sick animals no rise in temperature has been recorded, but daily observations throughout the course of the disease might have given different results. Animals of all ages except the very young kids are attacked. It is doubtful whether recovery confers any appreciable immunity as several goats have suffered from two attacks of the disease during the past eighteen months. The mortality is high, well over 50 per cent.

OBSERVATIONS WITH REGARD TO THE ENVIRONMENT OF THE FLOCK

From the standpoint of sanitation and management the care and stabling of the goats was excellent, offering a definite check to the spread of any but a highly contagious disease. The yard and orchard which constituted the chief places for recreation and pasture respectively were far from satisfactory. The fruit trees afforded too much shade, while the acreage was insufficient for a large herd of goats. The soil must have been heavily contaminated with the ova of intestinal parasites.

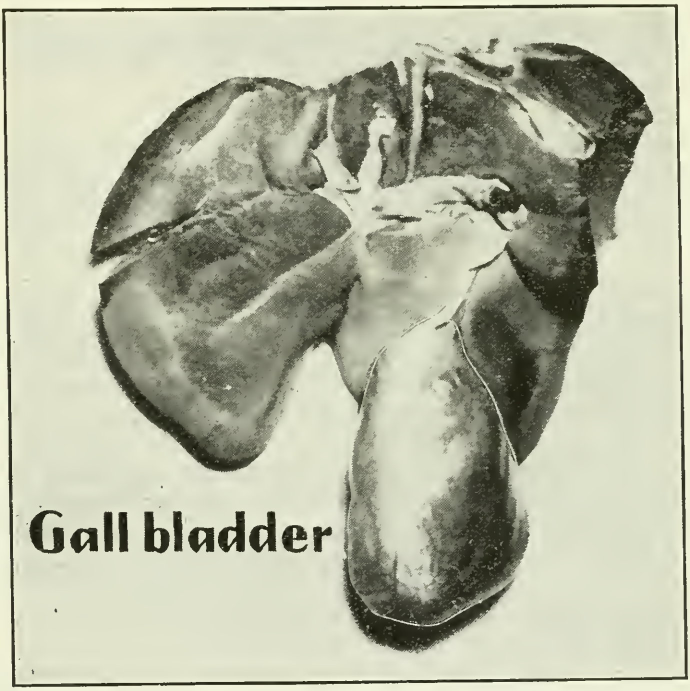
POST-MORTEM FINDINGS

Complete post-mortem examinations have been made on four animals, while portions of viscera have been examined from two fatal cases of the disease which were "opened up" by the owner. A greatly enlarged gall bladder was present in every case, this constituting the only gross pathological change which was constant. In one animal the partially filled bladder contained 180 c.c. of fluid and was at least three times the normal size. In another case, "Florrie," while the gall bladder was only slightly enlarged, the wall was greatly thickened and oedematous, and the portal lymph glands acutely inflamed. This case is of special interest due to the bacteriological findings and will be considered later.

Of the four cases on which a complete post-mortem examination was made, two might be considered as chronic and two as acute cases. The portions of viscera seen in one of the two cases "opened up" by the owner would indicate acute infection.

The Acute Cases.—While both of these animals had been affected for several weeks, the post-mortem findings would indicate that an acute intestinal infection was the immediate cause of death. An acute and extensive gastro-enteritis was present. Areas of inflammation were encountered all the way from the duodenum to the floating colon. The intestinal contents were very fluid and stained with blood. The mesenteric lymph glands were congested. Areas of consolidation were found in the lungs, especially in the case "Florrie." Subendocardial haemorrhages were present and the patchy colour of the myocardium suggested inflammatory and degenerative changes. Careful examination of the liver revealed a few scattered foci of necrosis and occasional pale areas of degeneration. The greater part of the liver tissue appeared to be normal. The gall bladder was greatly distended. No other lesions were observed.

The Chronic Cases.—These animals were greatly emaciated. The intestinal mucosa and contents of the alimentary tract were suggestive of catarrhal enteritis.



Showing greatly distended gall bladder in cholecystitis in the goat.

The marked inflammation which so characterized the acute cases was absent. The liver was pale and showed mottled areas. The abdominal lymph glands were oedematous. In both cases the gall bladder was greatly enlarged, but not distended with bile. The wall was thin and parchment-like. *Trichostrongylidae* were present in vast numbers in the upper portion of the small intestine. The carcasses appeared anaemic.

Microscopical Examination of the Bile.—In all cases, except "Florrie," the fluid contained in the gall bladder was very turbid, pale yellow in colour and quite devoid of the characteristics of normal bile. Unstained specimens showed the presence of large numbers of columnar epithelial cells, pus cells and numerous bacteria.

BACTERIOLOGICAL FINDINGS

An organism very closely related to the *S. schottmulleri* was isolated from four out of the six cases examined. Of special interest is the fact of its isolation in pure culture from the acutely inflamed gall bladder in case "Florrie." The findings in this case are therefore recorded in detail.

Bile.—A smear made from the bile and stained by Gram's showed numerous small Gram negative bacilli. Large numbers of the organism could be seen packed within the desquamated epithelial cells. Great variation in the size of the organism was noted, from small coccus-like forms to well formed medium-sized bacilli. Active motility was seen in a hanging drop made from the bile. Cultures made from the bile on serum agar after eighteen hours incubation at 37° C. gave a pure growth of a Gram negative bacillus.

Liver.—An identical organism was isolated in pure culture.

Heart's blood.—No growth occurred.

A guinea pig which was injected subcutaneously with 1.0 c.c. of the bile died in about twenty-four hours showing peritonitis and extensive sero-sanguinous inflammation of the subcutaneous tissue. The organism was recovered from the guinea pig.

Description of the Organism—Morphology and Staining.*—A short somewhat slender rod, showing marked variation in both size and shape, which is common to the members of the colon-typhoid group. It presents no distinctive morphology. Stains readily with the usual aniline dyes, and is Gram-negative. The organism is actively motile and does not form spores.

Cultural Characteristics.—On agar plates the organism closely resembles the growth of *E. coli*, appearing in twenty-four hours as discrete grayish-white opaque colonies of medium size. On agar slants the growth is heavy, moist, uniform and gray. A slight wrinkling of the growth has occasionally been observed at the butt of the slant. The growth is not membranous as in *S. abortus equi*. There is a uniform clouding of broth with a delicate pellicle formation. Gelatine is not liquified.

On blood agar slant, haemolysis continues until in a few days the whole slant becomes transparent. In litmus milk the changes are identical with those produced by *S. schottmulleri*, i.e., a slight initial acidity during the first two or three days, changing to an alkaline reaction which slowly increases as long as growth continues. In Dunham's solution indol is not produced. Methyl-red is positive. Vosges-Proskauer reaction is negative. Lead acetate is positive.

Carbohydrate Fermentation.—The following are fermented with the production of acid and gas-dextrose, maltose, mannite, dulcite, xylose, arabinose, rhamnose, sorbite and inosite. No fermentation occurs in lactose, saccharose and adonite. In pure ox bile the organism was found to grow readily, which further differentiates it from the *S. abortus equi*, the growth of the latter being definitely restrained.

Based upon these cultural findings the organism was considered to be either *S. schottmulleri* or *S. aertrycke*. Agglutination tests, which are recorded later, seemed to definitely separate this organism from *S. aertrycke.* The organism has been isolated from the bile, liver and intestine of affected goats. It is most readily isolated from the infected gall bladder.

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*This also applies to the organisims isolated from the three other cases.

Fecal Examinations from Normal Goats.—Suspecting this organism of being a normal inhabitant of the intestinal tract of goats, and becoming conspicuous if not always pathogenic due to intestinal irritation caused by parasites or some other organism, samples of feces from ten normal goats were collected and cultured on Endo's medium. In no case was any organism of the *Salmonella* group detected. Further examinations must, however, be made as the samples examined on this occasion were twenty-four hours old and noticeably dry.

The Isolation of a Rough Strain of S. schottmulleri.—Among the numerous colonies growing on an agar plate made from a mucous scraping in case 'P.E." one colony stood out most conspicuously. It possessed the dry, rough appearance of *S. abortus equi*, but fermentation tests show it to be a typical *S. schottmulleri.*

Note on Case P.E.—This goat was suffering from a mild second attack and was thought to be improving when she suddenly died. Cultures were made from the gall bladder, liver and the highly inflamed duodenum. An organism† which later study showed to be identical with the strain "Florrie" was readily isolated from all the cultures.

To eliminate as far as possible the danger of missing some pathogenic anaerobe or other organism which might be present but unable to grow on the medium employed, a guinea pig was inoculated subcutaneously with a small quantity of the mucous scraped from the duodenum. After ten days a well circumscribed mass had formed at the site of the injection. This when incised was found to consist of much necrotic tissue and a small quantity of tenacious pus. Cultures were made which revealed an almost pure growth of an organism identical with the one previously isolated by direct plating from the mucous membrane. Such a result would certainly indicate an etiological relationship between the organism isolated and the infection in the goat.

SEROLOGICAL FINDINGS

Serological reactions have up to the present given but little encouragement to the belief that the organism isolated and described as *S. schottmulleri* has an etiological relationship to the disease being studied. It must be remembered that serological reactions among the members of the typhoid-paratyphoid group are notoriously confused. More than thirty samples of blood from normal and diseased goats have been employed in agglutination tests both against the goat strains and other closely related members of the *Salmonella* group. That the results have been unsatisfactory and difficult to interpret is most obvious from a study of the following table.

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†This strain does not ferment inosite.

TABLE 1

AGGLUTINATION TESTS

Animal	Condition	Instantaneous Agg.			Tube Agglutination								
		S.A.E.	Florrie	S.S.	S.A.E.			Florrie			S.S.		
					1–10	1–20	1–50	1–10	1–20	1–50	1–10	1–20	1–50
Q.V. (18)	Normal.........	−	−	−	−	−	−	−	−	−	−	−	−
D.D. (13)	"	+	+	−	+	+	+	+	−	−	+	+	−
B. (11)	" (Kid)...	−	−	−	+	−	−	−	−	−	−	−	−
B.B. (50)	"	+	−	−	+	+	+	−	−	−	+	±	−
P.L. (51)	"	+	−	−	+	+	+	−	−	−	+	+	±
L.Y.	"	..	+	..	..	..	..	..	..	..	..	..	..
E.E.	"	..	+	..	..	..	..	..	..	..	..	..	..
G.E.	"	..	−	..	..	..	..	..	..	..	..	..	..
L.B. (12)	"	+	−	−	−	−	−	..	−	−	..	−	−
B.B. (21)	"	+	−	−	+	+	+	−	−	−	−	−	−
R.E. (5)	Sick...........	+	+	−	+	+	+	±	−	−	±	−	−
D.M. (3)	"	−	−	−	+	+	−	−	−	−	−	−	−
T.E. (6)	Uterine discharge	+	+	+	+	+	−	+	+	−	+	+	−
B.B. (10)	Sick...........	−	−	−	−	−	−	−	−	−	−	−	−
H.L. (14)	"	+	−	−	+	+	+	−	−	−	−	−	−
D.A. (23)	"	+	+	+	+	+	+	+	+	−	+	+	−
J.E. (2)	Recovered......	+	−	−	+	+	+	−	−	−	+	±	−
D.G. (16)	"	+	+	−	+	+	+	+	±	−	−	−	−
J.A. (8)	"	+	−	+	+	+	+	−	−	−	+	+	+
W.A. (20)	"	−	−	−	−	−	−	−	−	−	−	−	−
I.L. (17)	"	−	−	−	−	−	−	−	−	−	−	−	−

S.A.E. = *S. abortus equi*
S.S. = *S. schottmulleri*

+ = Positive
± = Suspicious
− = *Negative*

One peculiar feature of these agglutination reactions is the frequency with which the *S. abortus equi* is agglutinated. This organism has not been isolated from any case although a careful search has been made for its presence. It was interesting to discover upon enquiry that several goats had aborted during the spring, and that several more had given birth to weakly kids, which had died shortly after birth. This, however, has no bearing upon the fact of the agglutination of this organism with sera from some of the normal goats which could not have been exposed to infection. It will be noticed that the *S. schottmulleri* was agglutinated with greater frequency than the isolated strain "Florrie." This may be due to the recent isolation of strain "Florrie," and that the *Salmonella* strain had been cultured for many years. Some light is thrown upon this question by the results of agglutination tests considered in the following section.

The Relationship Between the Goat Strains and Certain Other Members of the Salmonella Group.—Although the organisms isolated from the goats gave the typical cultural reactions for *S. schottmulleri* there was still the possibility of the organism being *aertrycke* and also the peculiar serological relationship to *S. abortus equi* to be considered. It was thought that some help might come from the experiment here described.

Each of four rabbits was given an intravenous injection of a fairly heavy suspension of the strains "Florrie and Jean." At the same time, samples of blood were taken from each rabbit for haemoglobin estimation and red and white cell counts. The results of the experiment are tabulated in the following tables.

TABLE 2

AGGLUTINATION TITRE RABBIT SERA BEFORE INOCULATION WITH GOAT STRAINS

No. of Rabbit	S. enteritidis			S. schottmulleri			S. abortus equi			Strain Florrie			S. aertrycke		
	1/10	1/20	1/50	1/10	1/20	1/50	1/10	1/20	1/50	1/10	1/20	1/50	1/10	1/20	1/50
No. 1........	+	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No. 2........	+	±	—	—	—	—	—	—	—	—	—	—	—	—	—
No. 4........	+	+	±	—	—	—	—	—	—	—	—	—	—	—	—
No. 4........	+	+	±	—	—	—	—	—	—	—	—	—	—	—	—

AGGLUTINATION TITRE TEN DAYS AFTER INOCULATION WITH GOAT STRAINS

No. of Rabbit	S. enteritidis						S. schottmulleri						S. abortus equi						Strain Florrie						S. aertrycke					
	1/10	1/50	1/100	1/500	1/1000	1/5000	1/10	1/50	1/100	1/500	1/1000	1/5000	1/10	1/50	1/100	1/500	1/1000	1/5000	1/10	1/50	1/100	1/500	1/1000	1/5000	1/10	1/50	1/100	1/500	1/1000	1/5000
No. 1......	+	±	—	—	—	—	+	+	+	+	+	..	+	+	+	+	+	..	+	+	+	+	+	..	+	±	—	—	—	—
No. 2......	+	±	—	—	—	—	+	+	+	+	±	—	+	+	+	+	+	±	+	+	+	+	±	—	+	—	—	—	—	—
No. 3......	+	±	—	—	—	—	+	+	+	+	+	..	+	+	+	+	+	..	+	+	+	+	+	..	+	—	—	—	—	—
No. 4......	+	±	—	—	—	—	+	+	+	+	±	—	+	+	+	+	+	±	+	+	+	+	+	±	—	—	—	—	—	—

+ = Complete agglutination. ± = Incomplete agglutination. — = No agglutination.

The absence of agglutinins to *S. aertrycke* except in very low dilutions of the immune serum would certainly indicate that the "goat strains" were not as closely related to this organism as cultural reactions had indicated. While the very marked response in the formation of agglutinins for both *S. schottmulleri* and *S. abortus equi* would indicate a close relationship between these organisms and those isolated from the goats.

The "goat strains" having already been differentiated from the *S. abortus equi* on very definite cultural grounds are consequently placed as belonging to *S. schottmulleri*. No attempt is made to account for the fact that *S. abortus equi* is agglutinated in higher titre than either the homologous goat strains or *S. schottmulleri*.

Absorption Tests.—A number of absorption tests have been made, with uniform results, in that no satisfactory differentiation could be obtained between *S. abortus equi*, *S. schottmulleri* and the "goat strains." Absorption of the agglutinins acting on *S. abortus equi* resulted in the removal of all agglutinins for *S. schottmulleri* and also for the "goat strains." As expected, absorption of the agglutinins acting on the "goat strains" resulted in the removal of the agglutinins for *S. schottmulleri*, but did not remove all the agglutinins for *S. abortus equi*. The identity of the "goat strains" with *S. schottmulleri* is further confirmed by these results.

BLOOD EXAMINATIONS

In the following table the data acquired from haemoglobin estimations and blood cell counts found in diseased, recovered and normal goats is recorded:

TABLE 3

Case No.	Condition	Haemoglobin % (Dare's haemoglobinometer)	Red Cells	White Cells
1	Normal	115%	18,200,000	12,000
2	“	75	12,000,000	7,400
3	“	80	15,200,000	12,000
4	Very sick	75	8,400,000	25,300
5	Normal	100	10,400,000	10,800
6	Very sick	——	13,200,000	18,000
6a	“ “	75	13,000,000	......
7	Sick	75	....	13,600
8	Dying	100	....	12,000
9	Sick	100	....	......
10	“	50	....	14,800
11	Disease developing	60	....	11,400
12	Normal	100	....	7,800
13	“	85	....	10,800
14	Recovered	50	....	8,000
15	“	60	....	......
16	“	45	....	......
17	Normal	100	....	......
18	“	80	....	......
19	“	90	....	......
20	“	80	....	......
21	Recovered	50	....	......
22	Not doing well	75	....	......
23	“ “ “	70	....	......
24	“ “ “	70	....	......
25	Normal	80	....	......
26	Disease developing	80	....	10,000

From the above data it would appear that in the normal goat the haemoglobin may vary from 75 per cent. to 115 per cent. with an average of 90 per cent. The average for the three "very sick" goats was 83.1 per cent.; for the recovered goats 51 per cent. and for the five goats which were "not doing well," 75 per cent. The high percentage of haemoglobin in the acutely sick goats is most likely due to the loss of fluid from purgation, and the indifference to both food and water. The very low percentage of haemoglobin in the recovered cases is most probably due to the increase in body fluids on the one hand and the haemoloytic action of the bacterial toxin on the other. Marked anemia has been noticed in the rabbit following injections of the "goat strains." Many more erythrocyte counts would have to be made and a larger number of cases studied before arriving at satisfactory conclusions. The haemoglobin estimations were made in conjunction with fecal examinations as a possible clue to the presence or effect of parasitic worms.

Parasites

The probability of parasitic infestation was kept in mind from the beginning, but due to an unfortunate concentration of thought upon the *Hemonchus contortus* when examining the abomasum, and tapeworms when searching the small intestine, the real offender, a *Trichostrongyle*, due to its minute size, was not expected and so not discovered at the beginning of the investigation. It is important to note that these parasitic worms cannot be seen unless the ingesta is diluted and spread out in a thin layer, preferably on a large piece of glass, and held so that the light may readily pass through it. In the two subacute cases of the infection these nematodes were present in enormous numbers in the duodenum and first few feet of the jejunum. The two acute cases did not show heavy infestation. Immediately following the discovery of such serious parasitism copper sulphate was administered to the whole flock. Two weeks after the administration of the copper sulphate fifteen samples of feces were examined. It is rather significant to find that the samples which contained the greatest number of eggs were with one exception from the sick goats. It would seem highly probable that the intestinal irritation produced by *trichostrongylidae* is the primary cause in this disease of goats, and that the *S. schottmulleri* is only able to invade the tissues after they have become irritated and inflamed by this parasite. Experimental infection in the rabbit would appear to substantiate this statement.

One experimental goat which has been used was very heavily infested with an *Eimeria*. There was no evidence that the coccidia were causing any harm.

Experimental Infection

A few experiments have been conducted with laboratory animals with the purpose of reproducing the infection as it occurs in goats.

Experiment No. 1.—Two guinea pigs and two rabbits were fed daily with mucuous scrapings of the intestine from an acute case of the disease. The feedings were continued for one week, the later feedings being reinforced with heavy suspensions prepared from pure cultures of the "Florrie" strain. The results were entirely negative.

Experiment No. 2.—This experiment consisted in intravenous inoculation of five rabbits with pure culture of the strain "Florrie."

Rabbit No. 19. Died forty-eight hours after the injection. Post-mortem examination revealed acute inflammation and intussusception of the floating colon. The gall bladder was inflamed, with distended capillaries and several small haemorrhages. The bile was very turbid and contained numerous gram negative bacilli. A pure culture of strain "Florrie" was recovered.

Rabbit No. 20. This animal, which was apparently in good condition when inoculated, refused all food and succumbed on the fifth day after the injection. Post-mortem showed an extensive area of inflammation in the floating colon. The gall bladder was opaque and distended. The bile was a pale yellow colour and very turbid. Under the microscope numerous pus cells and desquamated epithelial cells were seen, with many motile bacteria. A pure culture of strain "Florrie" was isolated.

Rabbit No. 21. This rabbit was inoculated on November 11th and, although partaking of hardly any food and but little water, was still alive on November 26th. It became very emaciated and was killed on the latter date. This animal was very anaemic giving a haemoglobin reading of fifty per cent. and a white cell count of 30,000. Post-mortem showed an opaque and greatly distended gall bladder and cystic bile duct. The bile was composed of pus and epithelial cells. Strain "Florrie" was isolated in pure culture.

A most important and somewhat disconcerting find was made in this case—that coccidia were present in large numbers in the purulent contents of the gall bladder. A further thorough examination of the bile in case No. 20 was now made which revealed the presence of a few coccidia.

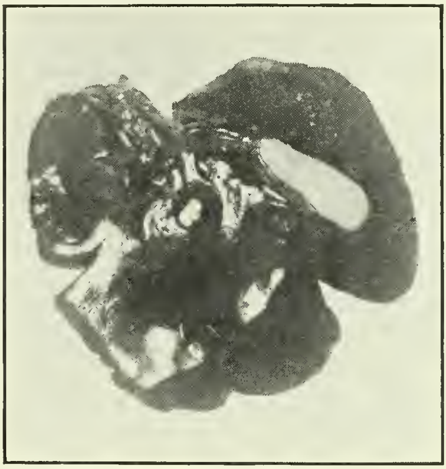
Rabbits Nos. 22 and 23. Intravenous inoculation caused an acute general reaction which lasted for several days. At the end of two weeks both rabbits, being in good condition, were chloroformed and examined. No lesions of any kind were observed and cultures made from the bile remained sterile.

Experiment No. 3.—A six-months-old kid was given an intravenous injection of a fairly heavy suspension of strain "Florrie." Within a few hours the temperature rose to 106 degrees Fahrenheit where it remained with little variation for the whole of the following week. By the eleventh day the temperature had returned to normal, i.e., 101° F—102° F. The marked increase in the number of white blood cells is recorded below:

TABLE IV.

Date	White Blood Cells	Note
Nov. 11th.........	12,000	Injected Nov. 17th
" 18th.........	18,000	
" 26th.........	24,800	
Dec. 9th.........	15,600	Killed Dec. 9th

Apart from a slight diarrhea for a few days following the injection the goat never showed any marked symptoms of disease. The animal was killed on December 9th, three weeks after the inoculation with the living organism. The post-mortem examination showed no evidence of disease in any part of the carcass. Cultures made from the gall bladder, liver and spleen and various parts of the alimentary tract were all negative to *S. schottmulleri*. Coccidia were present in very large number in the feces. From the experiments it would appear that some other factor beside the *S. schottmulleri* is necessary to cause infection. The very typical reproduction of the disease as it occurs in goats in the two rabbits which were parasitized with coccidia is a most significant fact. In one of these two rabbits the coccidial infection was very slight, while both were in good physical condition when injected. The sickness which developed immediately upon the introduction of the live organisms was progressive and would have terminated fatally in both cases. The relationship, if any, of the *Trichostrongylidae* to the infection in the goats is an important point which must be cleared up by further experimentation. In the case of the rabbits it would appear that coccidial damage to the billiary epithelium was both necessary and responsible for invasion of the tissue by the *S. schottmulleri.*



Showing gall bladder distended with purulent bile in experimental cholecystitis in the rabbit.

SUMMARY

First—That an unusual disease of goats has been investigated and described in which the most constant and conspicuous pathological change is that of cholecystitis.

Second—That an organism identical with the *Salmonella schottmulleri* has been isolated and would appear to be possessed of etiological significance.

Third—That the relationship of this organism to para-typhoid fever in man brings to light another possible source of human infection of animal origin.

Fourth—That there may be a definite etiological relationship between a nematode—*Trichostrongylus*—and the bacterium *Salmonella schottmulleri.*

I wish to express my thanks to Mrs. Johnston, Hospital for Sick Children, Toronto, for the help which she gave in the identification of some of the organisms isolated.

REPORT OF THE EXPERIMENTAL WORK ON HYPERTROPHIC CIRRHOSIS OF THE LIVER OF THE HORSE

(F. W. Schofield, D.V. Sc.)

As a result of previous investigations into this disease which has for many years been endemic in certain parts of Northern Ontario, feeding experiments with two plants, horsetail (*Equisetum*) and alsike clover, were decided upon. Some of the experiments were to be undertaken at the Experimental Farm, New Liskeard, and some at the Ontario Veterinary College. Preparations for the most important feeding experiment have been made during the summer, in the seeding to alsike of fifteen acres of land on the Experimental Farm, New Liskeard. It is hoped that this will be suitable for grazing and hay during the coming summer.

Of considerable interest was the discovery made by Dr. Lionel Stevenson, that a similar "liver disease" of horses existed in Lambton County in Old Ontario. Although the district is removed by hundreds of miles from the disease area in Northern Ontario, yet the soil conditions are very much alike. Both are heavy clay land, and in both places alsike clover grows with unusual luxuriance. Another interesting fact is that a disease closely related to "swamp fever," if not identical with that disease, exists in both of these districts. Further details with regard to the occurrence of this disease in Lambton County are given later on in this report.

Feeding Experiments Conducted at the College

Feeding Experiments with Alsike Clover.—The alsike clover hay which was used in this experiment was a most unsatisfactory sample of hay. It was purchased from a farm where during the last fifteen years five cases of "liver disease" had occurred and was sold as containing more than 75 per cent. alsike. A careful examination of many of the trusses would indicate that the hay was considerably less than one-half alsike. Before being fed to the horses the hay was carefully picked over and any weeds removed. Few weeds were present. The horses were allowed all the hay they would eat. No grain was given. In addition to the hay large quantities of alsike clover seed were fed. This addition was made to intensify the alsike content of the feed. Three horses were included in the experiment here described.

Black Gelding.—Thirteen years old. Weight about 1,600 pounds. Continuous feeding of alsike hay from December 20th, 1930 to April 16th, 1931. From April 7th to July 10th, a total quantity of 325 pounds of alsike clover seed was consumed. Killed on July 20th.

Post-mortem.—All tissues and organs appeared normal. The liver weighed 14½ pounds and showed no evidence of hypertrophic cirrhosis. On the lower border of the median lobe there was what appeared to be a scar. Surrounding this was an area of slight fibrosis. Histological examination. The parenchyma of the liver was normal. In many places there was a slight yet definite proliferation of connective tissue cells and biliary epithelium. This usually extended from a portal area for a short distance around the periphery of the lobule. Monthly bile estimations showed an average for the seven months of 2.4 van den Bergh units with a high of 3.8 and a low of 1.6 units. Jaundice was never observed.

Sorrell Gelding.—Age, three years. Weight approximately 900 pounds. Continuous feeding of alsike from December 20th, 1930 to December 18th, 1931. About 150 pounds of alsike seed was fed during the months of May, June and July. This horse remained in good health during the whole time of the experiment and was killed and autopsied on December 18th, 1931. The liver weighed fourteen pounds and appeared normal. No visible lesions of disease were discovered in any part of the carcass. Histological examination. The liver parænchyma was normal. Proliferation of connective tissue and biliary epithelium was more evident than in the previous case. It was not sufficient to designate as a case of cirrhosis of the liver. Bile estimations by van den Bergh showed a high of 2.8 units, and a low of 1.4 units with an average of 2.1 units. Jaundice was never present.

Roan Gelding.—Age about fifteen years. Weight approximately 900 pounds. Fed alsike hay from December 20th, 1930 to September 10th, 1931. Alsike seed consumed, approximately 150 pounds. This animal remained in good flesh throughout the experiment and never showed any evidence of jaundice. Post-mortem showed the following changes in the liver. Several areas of capsular thickening with quite a few small fibrous tissue "tags" attached to the anterior surface. Certain areas seemed abnormally tough when sectioned, and to the eye gave indication of slight peri-lobular fibrosis. The weight of the liver was 13½ pounds. Histological examination. While the parenchyma appeared normal there was well marked peri-lobular fibrosis in many areas. This consisted of small bile ducts, biliary epithelium and fibrous tissue. Bile, as estimated by the van den Bergh test gave a high of 4.8 units, a low of 1.0 units with an average of 2.1 units.

Conclusions.—The feeding of the alsike hay and alsike seed as described in these experiments gave negative results, in that typical hypertrophic cirrhosis was not produced. Jaundice, one of the most constant symptoms of the disease, was never observed. The definite presence of early biliary cirrhosis in the Roan and the slight increase in fibrous tissue and biliary epithelium in the two other horses would indicate the possibility of genuine hypertrophic cirrhosis with long continued feeding, especially with hay containing large quantities of alsike. It was almost a foregone conclusion that hay containing so little alsike would prove to be practically harmless. None of these cases showed anything like the definite biliary cirrhosis produced in our feeding experiment of 1929. In this case well marked jaundice also developed.

I wish to express my appreciation of Miss M. Hanna, Banting Institute, Toronto, for her kindness in making the numerous van den Bergh tests.

No report can at present be made on the feeding experiments with Equisetum.

HYPERTROPHIC CIRRHOSIS OF THE LIVER OF THE HORSE OCCURRING AS AN ENDEMIC DISEASE IN LAMBTON COUNTY

As previously mentioned in this report the interesting fact of the occurrence of this disease in a new area of the Province—Lambton County—was brought to our attention in the spring of year by Dr. Lionel Stevenson. No cases of the disease had been seen by him, but the disease with its very characteristic features of jaundice and a greatly enlarged liver had been described by veterinary surgeons who were practising in the district.

On May 21st, 1931, accompanied with Dr. Lionel Stevenson, a visit was made to the veterinary surgeons located in the towns of Petrolia and Brigden in order to acquire as much information as possible with regard to the disease

Statement Made by Dr. W. H. Johnston, of Brigden.—Both he and his father, the latter having practised for more than twenty-five years in Brigden, had noticed the frequent occurrence of jaundice in horses, especially in the township of Dawes, which comprises a large area of their practice. The soil of this township is heavy clay on which alsike clover grows in great luxuriance. The disease seems to be co-extensive with the clay soil, few cases occurring where the soil is lighter. The disease is most prevalent during the late winter and early spring. It is locally called "alsike disease," as it is thought to be due to the feeding of alsike clover hay. A few supposedly typical cases of the disease had been encountered where no alsike clover was being fed. Idleness is considered to be a predisposing cause, but the influence of the grain ration given to working horses may act as a preventive. The disease is much more frequent following a wet than a dry summer.

Symptoms of the Disease.—The most constant symptom is that of jaundice, which may be either very pronounced or only sufficient to cause the visible mucous membranes to take on a dirty-brown or sallow colour. This is accompanied by marked anorexia and a high fever, 104°F.—107°F. The temperature usually drops to about normal within a few days. The urine is dark brown in colour. Affected animals are usually dull, and a swaying of the posterior extremity is frequently observed when the animal is made to walk. Marked excitement and mania are of rare occurrence. Diarrhea is considered as a most serious symptom, such cases usually terminating fatally. Animals rarely succumb to the first attack, but the condition has a tendency to become chronic, with alternating improvement and relapse. The chronic form is characterized by unthriftiness, oedema in the subcutaneous tissue of the abdomen and a stocking of the legs. The animals become progressively weaker and emaciated and die in a condition of pronounced cachexia. At post-mortem the outstanding feature is a greatly enlarged liver.

Comment on the Statement. On considering the history and symptoms of the disease as described above, one cannot help but sense the probability of two distinct diseases being included in the single category "alsike disease." Such confusion of diseases may easily occur, as had recently been discovered in the "liver disease" of Northern Ontario, where "swamp fever" and hypertrophic cirrhosis had undoubtedly been considered as different manifestations of one disease. Certainly some of the symptoms described such as high temperature, swaying gait, sallow membranes and oedema are strongly suggestive of "swamp fever." While a greatly enlarged liver is not considered as a pathological change in cases of "swamp fever" it has been given at least a tentative relationship to the heavy feeding of alsike clover.

A recommendation was made to the Department of Agriculture that feeding experiments similar to those to be undertaken in New Liskeard should also be commenced at Brigden. This request was granted.

Feeding Experiments Under Way at Brigden.—Alsike hay from two farms where alsike clover disease has occurred in recent years has been purchased. The hay contains a large percentage of alsike, stated to be over eighty per cent. Five horses have been purchased and the feeding of the hay commenced in December. It is intended to turn these horses out on alsike pasture during the summer months. The pasture to be selected if possible on a farm where horses have suffered from "alsike disease."

An interesting fact has come to light with regard to a relationship between alsike clover and the occurrence of jaundice. Several veterinary surgeons have assured the writer that jaundice is frequently present in severe cases of "alsike rash" which so frequently develops in the unpigmented areas of skin on the legs and nose of horses pasturing on alsike clover. This certainly reflects upon the plant as being an irritant to the liver as well as the skin.

REPORT ON A DISEASE RESEMBLING SWAMP FEVER AS IT HAS BEEN OBSERVED IN DIFFERENT LOCALTIES IN ONTARIO

Immediately following upon the decision of the Department to investigate the disease already referred to as "alsike disease," of Lambton County, Dr. J. N. Pringle visited Brigden to make a preliminary survey. The first case to be brought to his attention was that of a horse on the farm of Mr. G——, and thought to be suffering from the chronic form of "alsike disease." Examination of the horse failed to reveal any symptoms referable to a diseased liver, and the animal having a high temperature was stabled and kept under careful observation. The history of this case and of others which have occurred on the same farm follows.

The Disease As It Occurred on the G—— Farm

History.—Two cases of the disease have occurred on this farm during the year 1931. Both terminated fatally. The dead horses were team mates which had been purchased locally about fourteen years ago, and until this spring had worked steadily and shown no definite evidence of disease. No horses had been introduced since the purchase of this team, neither had horses from the G—— farm been stabled away from the premises, except for a few hours occasionally in a livery barn. The origin of the infection remains undetermined.

Case No. 1.—The first case occurred during the month of March before the horses had been turned out to pasture. On March 15th this mare which was thought to be in good condition was noticed to stagger and sway in the hind quarters, while on a return trip from a near-by grist mill. From this time on she steadily fell off in flesh, became progressively weak and increasingly listless. No jaundice was observed. Oedema was present. She died on May 27th following a severe attack of diarrhea. No data was available with regard to the pulse or temperature. A post-mortem examination was not made.

Case No. 2.—This horse was the team mate of No. 1. Definite sickness was first recognized on June 1st, although the horse had not been "doing well" all spring. This case was seen by Dr. Pringle on July 4th and described as follows: "Horse dull and off feed; slight oedema of the belly; unsteady gait; mucous membranes pale, and a dirty brownish-yellow colour. Temperature 105.2°F.; pulse 90 and weak." The horse was taken into Brigden and kept under close observation. During the months of July, August and September the temperature was rarely down to normal, remaining at 101—102° F. with one marked exacerbation when the temperature rose to 106° F. and remained near that point for six days. Although the appetite was usually good there was a progressive emaciation and a pronounced swaying movement of the hind quarters during walking. The presence of anaemia could be detected by the marked pallour of the conjunctiva and mucous membranes of the mouth. The pulse was weak and increased to 50-60 beats per minute. Oedema of the sheath was pronounced with slight oedema along the abdomen. No jaundice was observed during the course of the disease. Examination of the blood on two different occasions gave the following results:

Date	Red Blood Corposcules	White Blood Cells	Haemoglobin	Test with $HgCl_2$
Aug. 1, 1931....	2,740,000	9,000	35%	Negative
Sept. 5, 1931....	2,800,000	15,000	35	"

Differential count: Polymorphs, 55 per cent.; large and small lymphocytes, 33 per cent.; eosinophiles, 12 per cent. Albumen was not present in the urine.

Post-mortem Findings.—The horse was killed on September 5th and a post-mortem examination made. Oedema was present in the subcutaneous tissues along the floor of the abdomen and thorax. The abdominal cavity contained about one pint of straw coloured fluid.

The liver appeared to be enlarged, but was normal in colour and consistency. It was attached to the diaphragm in several places by bands of fibrous tissue. The portal lymph glands were enlarged and oedematous. There was no gross evidence of cirrhosis. The spleen was enlarged, and the capsule tense with the borders definitely rounded. The cut surface showed a very definite mottled appearance obviously due to a hyperplasia of the splenic corpuscles. The colour of the splenic pulp was normal. The splenic lymph glands were oedematous, much enlarged and haemorrhagic. The kidneys were pale but otherwise normal, except for the presence of much mucous in the pelvis. The lymph glands were congested and swollen. The urinary bladder showed congestion of the mucous membrane. The mucous membranes of the coecum and great colon showed many extensive areas of congestion and large areas of brown pigmentation. Sclerastomes were numerous. A large aneurism was present in the anterior mesenteric artery. The stomach and small intestines appeared to be normal The lungs showed no change. The heart was normal in colour, but contained many sub-epicardial petechial haemorrhages.

Experiment in Transmission.—Believing the disease to be a case of chronic "swamp fever" samples of blood were obtained on two different occasions and after filtration (Berkefeld M) were injected intra-venously into a healthy horse. The first injection was given on August 21st and consisted of 2.5 c.c. of citrated blood serum which had been filtered. The second injection was made on September 9th when 25 c.c. of filtered serum was given. Daily temperature readings were taken for a period of three months, but no elevation of temperature was recorded.

Case No. 3.—Two horses remained on the G—— farm, a bay mare purchased in July and an old bay horse which had been on the farm for about twenty years. Both appeared to be in excellent condition. It was decided to take temperatures every other day on these two horses, which was commenced August 3rd. On August 15th the old bay horse showed a temperature of 104° F.; August 17th, 103° F.; August 19th, 101.1° F. The appetite was unimpaired and the horse showed no symptoms of disease other than congestion of the conjunctiva. On September 3rd the owner was surprised to find the horse quite sick, and entirely off feed. Examination revealed marked congestion of the mucous membrane of the eye; when walked down the yard the swaying of the hind quarters was very noticeable. The temperature was 106° F. and the animal appeared to be very toxic. Within two days the temperature had returned to normal and the horse had apparently recovered as rapidly as it had become ill. This horse has been worked ever since without showing any evidence of sickness. Examination of the blood on September 5th showed following: Haemoglobin, 80 per cent.; white cell count, 8,000; red cell count, 6,700,000; $HgCl_2$ test, negative.

Comment.—The disease occurring on this farm is believed to have been "swamp fever." The two horses which died showed symptoms quite characteristic of the chronic form of this disease. The failure to reproduce the disease by inoculation of the blood serum into a healthy horse cannot be accounted for. Neither can the sudden pyrexia in the case of the old bay horse. It would appear to the writer that many of the cases of so-called "alsike disease" occurring in this territory are in realty febrile conditions such as those described on the G—— farm. No alsike was being fed on this farm.

I wish to thank Dr. W. H. Johnston, Brigden, for his valuable assistance in carrying out this work.

"Swamp Fever" on the O—— Farm, New Dundee

On August 15th, 1931, Dr. E. S. Brown, New Dundee, telephoned the College and briefly described what he believed to be a case of "swamp fever," and requested a consultation over the case. On the following day I visited the case with Dr. Brown and obtained the following facts from the owner.

History.—The farm has been purchased by Mr. O—— on December 1st, 1930. A few days later he bought two colts, two years old, which had recently been imported from the Province of Manitoba. Neither was in good condition. They both ate heartily but did not put on flesh as anticipated. Late in February, one of the two was noticed to have difficulty in rising after lying down in the stall. The colt was obviously very weak, so the owner placed the animal in slings. After two week's time it seemed much better, and was able to get up and down unaided. In May this colt was turned out to grass but continued to receive a gallon of oats twice daily. The colt failed to improve in condition, but rather became weaker, with a marked staggering gait or weaving as it walked. This colt died early in July. The appetite remained good until a day or two before death.

The history of the other colt was very similar, except that the onset of the disease was not until the month of May, when it showed marked signs of weakness, increasing listlessness and "loss of spirit." When seen on August 15th the colt was lying down, and could only get up when assisted. Respirations were rapid; the pulse almost imperceptible; visible mucous membranes very pale; some oedema beneath the sternum and abdomen; the temperature was 106° F. The blood when drawn from the jugular was pale and very watery. Haemoglobin test showed 15 per cent. Reaction with bichloride of mercury was negative. The colt died on August 17th, 1930.

Post-mortem.—The skin had a definite pale yellow colour. The skeletal muscles were pale and lustreless. Subcutaneous oedema was well marked along the floor of the abdomen. Quite a little straw coloured fluid trickled out of the abdominal cavity when opened. Kidneys normal in size, but pale in colour.

Spleen, increased in size, distended, with the pulp a dark red colour, and quite firm. The lymph glands attached to the abdominal viscera were all much enlarged, oedematous and many were haemorrhagic. Liver was much enlarged, weighing twenty pounds, pale in colour, and very friable. The cut surface did not glisten. The large and small intestines were very pale, but apart from minor lesions due to parasites were normal. Lungs were slightly congested and definitely oedematous. Heart, much fluid was present in the pericardial sac; the myocardium was blotchy in appearance due to the marked differences in the colour of the muscle which varied from a light to a dark brown. Much degeneration had obviously taken place. The muscle when cut had a boiled appearance. The appearance of the bone marrow showed little alteration.

Experimental Transmission.—On September 18th, "Pinto," a horse which had been stabled at the College for several months was given 1.0 c.c. intravenously of a filtrate (Berkefeld M). Clinical observations were made and daily temperature readings taken. The temperature showed little daily variation until the sixteenth day following the injection, when it rose to 100.8° F. On September 5th the temperature was 103.2° F.; September 6th, 104.4° F.; September 8th, 100.6° F. and remaining normal till September 10th when the animal was killed. During the febrile attack both anorexia and depression were marked. The conjunctiva was highly injected and remained a dirty red colour. A comparison of the blood counts taken before and after infection show little change in the cellular elements.

Date	Red Cells	White Cells	Haemoglobin	$HgCl_2$ Test
Aug. 18, 1931...	7,200,000	13,200	90%	Negative
Sept. 9, 1931...	6,700,000	12,000	85	"

Brief Note on Post-mortem Findings.—The spleen, which weighed 7½ pounds, showed the most marked pathological change. It was greatly enlarged, with rounded borders, distended capsule and on incision was found to contain a very dark red pulpy mass which was easily scraped from the cut surface. It resembled an anthrax spleen. The splenic lymph nodes, in common with all the lymphatic glands of the abdominal cavity, were enlarged, oedematous and congested. Kidneys:—Contained much mucous in the pelvis. Liver:—No changes referable to the disease. Stomach and small intestines:—Normal. Coecum and colon:—Extensive areas of congestion, varying from a deep pink to a dirty brownish-red colour. Heart: No macroscopic changes were present.

Further Evidence of Disease at the O—— Farm.—Through the kindness of Dr. E. S. Brown we have been able to get monthly reports and some samples of blood from the remaining three horses.

September 22nd, 1931. Horse No. 1 is carrying a temperature of 102 1/5 with a pulse rate of 54. The horse shows no outward evidence of disease. Horses Nos. 2 and 3 are normal. The bichloride of mercury test made on the sera from these horses gives a slight precipitate in each case.

October 18th, 1931. Horse No. 1 has been quite sick for one week, with weakness, loss of appetite, swelling of the legs, and noticeable loss of flesh. The sample of blood taken from this horse shows one-quarter cells and three-quarters serum and clot, obviously indicating anaemia. The other two horses are normal. The bichloride of mercury test is positive with serum from horse No. 3, and negative with Nos. 1 and 2.

November 8th, 1931. All three horses back at work and seem to be in good health, although thin.

Comment.—The deaths which occurred on the O—— farm were undoubtedly due to "swamp fever." It is most probable that horse No. 1 was and is now infected with the virus of this disease.

We are most grateful to Dr. Brown for the time given and personal expense incurred in connection with these cases.

Report on Some Cases of "Swamp Fever" in New Liskeard

The data from which this brief report is compiled has been taken from an exhaustive report furnished by Dr. J. N. Pringle who spent two months—August and September—in the Temiskaming District, investigating the disease "big liver" of horses. The presence of "swamp fever" had already been determined by the writer as the cause of serious losses among horses in Cochrane. Due to the heavy importations of horses from the Canadian West, it was highly probable that the disease would be of frequent occurrence in the agricultural district which surrounds New Liskeard. That a febrile disease indistinguishable from "swamp fever" is quite common, and that it is frequently confused with "big liver" or hypertrophic cirrhosis is made plain by the recorded findings of Dr. Pringle. The following excellent example of the correctness of this statement has been abstracted from the report.

Report of the Cases which Occurred on the Farm of Mr. W——

Case No. 1.—A bay mare, fourteen years old, and raised locally. She had been at pasture for about two months. On July 1st, she suffered from a slight attack of alsike poisoning, the unpigmented skin of the face being acutely inflamed. A week later she was noticed to be quite ill, off feed, dull and feverish. The case was supposed to be one of "liver trouble." When seen by Dr. Pringle on July 11th the temperature was elevated 104.2° F.; pulse 71; conjunctiva injected but not jaundiced. Lassitude was marked, and she walked with a swaying gait. Daily observations were made of this case, of which the following are the most important. The temperature remained elevated 104—105° F., there was rapid loss of flesh, and marked weakness. The mucous membranes became increasingly pale, indicating the presence of anaemia. A rapid and weak pulse developed two days before she died on August 1st.

Post-mortem Findings.—The body cavities contained varying quantities of a straw-coloured dropsical fluid. The peritoneum, pleura and pericardium were covered with petechiae and ecchymoses. Both the colon and caecum showed marked congestion of the mucous membrane. The liver weighed twenty-three pounds, was pale in colour but sprinkled throughout with small green spots, apparently due to retention of the bile. Marked cirrhosis was present. Both kidneys were very friable. The spleen was almost three times the normal size, dark in colour and firm in consistency. The lymphatic glands in both body cavities were enlarged, oedematous and in some instances haemorrhagic. The heart was pale and the muscle friable. The epicardium contained numerous small haemorrhages. The pericardial sac contained about one pint of clear fluid. Parasitic worms were present in both the colon and caecum but not in unusually large numbers.

Experimental Transmission.—Blood serum from the above horse was diluted one-half with normal saline solution and filtered through a Berkefeld candle (M).

August 7th. Five c.c. of the filtrate was given intravenously to experimental animal "gray mare" which was known to be free from infection.

August 11th. Five c.c. of a similar filtrate was given intravenously, the sample coming from Mr. W——, case No. 2. Daily temperature readings were taken. On August 18th, the temperature rose to 101.4° F.; August 19th, 103.2° F.; August 20th, 103.4°F.; August 21st, 99° F. The temperature remained below 100° F. till August 27th, when it rose to 100.1° F.; August 28th, 101.4° F.; August 29th, 102° F.; August 30th, 103.8° F.; August 31st, 101.4° F. On September 1st it dropped to 98.2° F. and remained low until killed on September 11th.

Post-mortem.—The most definite changes were those seen in the abdominal lymph glands, especially the hepatic and splenic glands. These were enlarged, oedematous and congested. The spleen was slightly enlarged, the pulp dark red in colour, but of normal consistency. Weight 4½ pounds. The liver was enlarged, 16¾ pounds, but showed no gross changes of recent origin. The kidneys were normal. The colon and caecum showed very similar changes to those observed in case "Pinto," *i.e.*, extensive areas of congestion in the mucous membrane. The lymphatic nodes were swollen and oedematous.

Mr. W——, Cases No. 2 and No. 3.—These horses were recent importations from Western Canada. No. 2 came from Manitoba, December 18th, 1930; horse No. 3 arrived from Saskatchewan, May 2nd, 1931. They sickened at the same time, August 3rd. Both of these horses showed the same symptoms as case No. 1. That is, elevation of temperature, 103° F.—106° F.; increase in the pulse rate varying from 55 to 70 per minute; marked weakness and lassitude, with loss of flesh. The conjunctiva showed much congestion and was a dirty brownish-yellow colour. In both of these horses the disease seemed to be rather more acute than in the first case. Horse No. 2 grew steadily worse and died on August 20th. The other horse, No. 3, made a recovery as far as any clinical evidence of the disease is concerned.

Post-mortem.—The lesions found in case No. 2 were practically identical with those already described for case No. 1. It is important to note that even in this recently imported horse the liver weighed 32½ pounds, and was covered on the diaphragmatic surface with fine fibrous adhesions, attached and free.

Comment.—There can be little doubt that the disease which caused the sickness and death among these horses is infectious anaemia or "swamp fever." The writer is still of the opinion that the enlarged livers so frequently found at post-mortem in this district have a different etiology to the fatal febrile attacks. This would be substantiated by the findings in a case of uncomplicated jaundice. The mare was pasturing on alsike and suffering from the dermatitis so commonly caused by this plant. During the period of acute jaundice the temperature and pulse remained normal and the animal failed to show any of the clinical conditions so typical of "swamp fever." The van den Bergh test for bile showed the presence of nineteen units. In several other cases where animals were out at pasture and slight jaundice was thought to be present the van den Bergh test was positive.

[*Note on the Precipitation Test with $HgCl_2$ in the Diagnosis of "Swamp Fever."*—This test which was described by Fulton (see A.V.M.A., Volume 77, pages 58-61) and used by us last year with much satisfaction has been found quite unreliable as a guide to infection in many cases examined during the present year. When heavy precipitation occurs with HgCl 2, 1-60,000, the case is most likely one of "swamp fever," but a negative result does not mean that the disease is absent. In several acute cases and one chronic we failed to get any precipitation. A slight precipitate may occur with the serum of normal horses, but we have not observed the heavy precipitation which occurs in some infected animals.]

HEAVY MORTALITY AMONG DUCKLINGS DUE TO *HYMENOLEPIS CORONULA*

(F. W. Schofield, D.V.Sc.)

The owner of a flock of about one hundred and twenty ducklings reported serious losses which he had been unable to check either by dieting or the use of different medicines. The farm was visited and some of the dead birds examined.

History and Symptoms.—The birds were about ten weeks old and had done well at first, putting on weight and were apparently in good health. About three weeks previous to our visit a number of the birds began to show definite signs of sickness and for some time had been dying at the rate of four and five a day. Apart from indifference to food the most noticeable symptom was a peculiar and persistent pecking at the body in the region of the sternum as if some local irritation were present. The ducklings had access to a low-lying pond which received much surface drainage and due to the limited flow might well be described as stagnant water.

Post-mortem Findings.—The subcutaneous tissue and musculature appeared normal. No lesions were found in the abdominal cavity. On opening the intestine the duodenum and upper portion of the small intestine were literally packed with small tapeworms, varying in size from 1.25—3.25 c.m. The parasite was identified by Dr. Kingscote as *Hymenolepis coronula.*

The remaining ducklings were removed to dry and sanitary surroundings which prevented further serious losses.

NOTE ON THE EFFECT OF THE IMMUNIZATION OF CATTLE WITH HAEMORRHAGIC SEPTICAEMIA BACTERINS ON THE AGGLUTINATION TITRE OF *BRUCELLA ABORTUS.*

(F. W. Schofield, D.V.Sc.)

In a report made by Mallmann* on the interagglutinability of Brucella and Pasteurella, the author submits experiments to show that rabbits immunized with *Pasteurella boviseptica* are possessed of agglutinins to *Brucella abortus* in unexpectedly high dilutions. It is pointed out that such interagglutinability might easily lead to serious mistakes in diagnosis when this is dependent upon the agglutination test alone.

With the present very general use of haemorrhagic septicaemia bacterins in cattle practice it would be a serious matter should such inoculations result in the productions of agglutinins to *Brucella abortus.* To determine this point the following simple experiment was carried out. Samples of haemorrhagic bacterins from two reliable commercial houses were purchased. Through the co-operation of the Animal Husbandry Department of the Ontario Agricultural College twelve young animals—steers and heifers—were supplied for the test.

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*Mallman, W. L., The Interagglutinability of Members of the Brucella and Pasteurella Genera. Jour. A.V.M.A., Vol. LXXVII (1930), pp. 636-638.

A sample of blood was collected from each animal and submitted to the routine test as carried out by the department of bacteriology. All of these were negative even in dilutions as low as 1:25. The cattle were now injected with the sample of haemorrhagic septicaemia bacterin according to the prescribed dosage. Ten days after the injection was made samples of blood were taken from the whole group and tested in the usual way for the presence of agglutinins against *Brucella abortus*. All of the samples were negative in dilutions ranging from 1:25 to 1:100. Similar tests carried out one month after the date of the immunizing injections also gave entirely negative results. On this occasion eight animals alone were bled as four had been sold.

It would appear from this very limited number of tests that there is no danger of stimulating the production of agglutinins to *Brucella abortus* by the process of immunizing cattle with haemorrhagic septicaemia bacterin.

I wish to thank Dr. R. A. McIntosh and Dr. J. S. Glover for their help.

ANAEMIA IN SUCKLING PIGS

F. W. Schofield, D.V.Sc.

The numerous enquiries with regard to this condition as well as the many reports from breeders of losses sustained serve to constantly emphasize the fact that the disease is both widespread and serious.

We have finally selected "reduced iron" as being the most suitable form of iron to employ in the treatment of anaemia. This has been determined on the following grounds. First, its therapeutic value would appear to be quite equal to that of any of the salts of iron which are recommended. It may even possess a distinct advantage here, in its slow absorption, allowing for longer intervals between the doses. Second, ease of administration. The extremely fine particles of iron become attached to the tongue and lips so that there is little possibility of the medicine being rejected or trickling from the mouth as is the case when solutions of iron are used. This means that large numbers of pigs can be dosed in a very short period of time.

The following two cases have been selected from a number where the administration of iron has proved to be most effective both as a preventive and cure.

Case 1.—In a large piggery with about two hundred brood sows the losses among piglets was becoming a serious matter. During the period of September to March no less than three hundred and sixty-seven young pigs had died. Haemoglobin tests were made on a few pigs taken promiscuously from a number of different litters. Most of these showed the presence of anaemia. To satisfy the owner as to the real nature of the malady some litters were put on iron while others were left untreated. The difference in favour of the iron fed pigs was soon so apparent that all were put on iron. Within a short time the piglet mortality was reduced to the small casualty rate which is usual in any large piggery.

Case 2.—Heavy losses due to nutritional anaemia had occurred in previous years but the owner was not satisfied that the present losses were due to the same cause. The following table shows the effect of feeding "reduced iron" 10–15 grains every other day. The result was quite convincing.

No. of Pig	Percentage of Haemoglobin Shown by the Week				
	At Birth	First week	Second week	Third week	Fourth week
These pigs received iron:					
1	85%	60%	85%	90%	....
2	60	90	95	95	....
3	60	65	90	90	....
4	80	70	90	100	....
5	75	70	90	90	....
6	75	70	90	95	....
No iron:					Iron administered:
7	64%	40%	35%	35%	75%
8	90	40	20	20	80
9	80	45	35	35	75
10	50	35	35	Dead	....

A popular bulletin has been prepared and published which deals concisely with the cause, symptoms, treatment and prevention of nutritional anaemia as it occurs in suckling pigs.

MILK HYGIENE, POULTRY DISEASES AND SEROLOGY

J. S. Glover, B.V.Sc.

During the year ending October 31st, 1931, the work conducted may be summarized under the following headings:

Teaching.—A course of lectures and practical work in milk hygiene was given to the fourth-year class. This course included visits to dairies and dairy farms. A course of lectures in poultry diseases was also given to the fourth year class, and, owing to the ample material received it was possible to make this course a practical one by having the students conduct ante-mortem and post-mortem examinations and make bacteriological examinations where necessary. Assistance was also given in instruction in laboratory bacteriology to the third and fourth years.

Preparation of Biological Products.—Fifty-nine thousand, eight hundred test doses of *S. pullorum* antigen and positive and negative control sera were distributed to veterinarians for the agglutination test for *S. pullorum* infection. Eight hundred test doses of *Br. abortus* antigen were also sent out for use by veterinary surgeons. About forty thousand doses of fowl pox vaccine were prepared for use in the control of fowl pox in the Breeding Stations under the supervision of the Department of Agriculture of Ontario.

Investigation.—Owing to the greatly increased amount of routine work several investigations that were commenced have had to be temporarily abandoned. It is hoped, however, that sufficient time will be available during the coming year to resume work on some of these. Considerable time has been spent on comparing *Br. abortus* and *S. pullorum* antigens from various laboratories with those in use here, selecting suitable strains of *S. pullorum* for the preparation of antigen, and studying various culture media for the growth of *S. pullorum.*

Routine Examination of Specimens.—This consisted of the routine examination of samples of fowl and cattle blood, and the bacteriological or such other examination as required of other specimens. As in the previous two years the only fowl bloods examined were from the Poultry Husbandry Department of the Ontario Agricultural College, and breeding stations under the supervision of the Department of Agriculture of Ontario. Testing for others was carried out by certain practitioners to whom we supplied the necessary antigen and control sera. The number of tests made of cattle bloods has more than doubled in two years.

BLOOD SERUM EXAMINATIONS

Animal	Disease	Number of Samples Received	Positive	Suspicious	Negative	Unfit for Testing
Fowl.....	*S. Pullorum* infection.	21,333	464	...	20,863	6
Cattle.....	Infectious abortion..	6,717	1,505	786	4,350	76

SYNOPSIS OF BACTERIOLOGICAL AND OTHER EXAMINATIONS COMPRISING 2,237 SPECIMENS

Condition or Disease	Poultry	Cattle	Miscellaneous	
Br. abortus Infection		2	Milk and Cream	47
Blackleg		2	Water	3
Hemorrhagic Septicemia	81	2	Urine	1
Adult Pullorum Infection	168		Lamb	1
Ascites	2		Rabbits	4
Avian Diphtheria	6		Cavy	1
Avian Typhoid	7		Cat	1
Bumblefoot	2		Dog	1
Botulism	1			
Cloacitis	8			
Colds and Roup	104			
Coccidiosis (including 48 duodenal)	237	1		
Egg Bound and Yolk Concretions	15			
Enterohepatitis—Chicken	15			
“ Turkeys	11			
External Parasites	10			
Impaction of Crop	9			
“ Proventriculus	1			
Infectious Bronchitis	58			
Other Infections	38			
Injuries	21			
Leukemia	23			
Nutritional Conditions	235			
Oedema of Wattles	7			
Poisoning	2			

SYNOPSIS OF BACTERIOLOGICAL AND OTHER EXAMINATIONS COMPRISING 2,237 SPECIMENS—*Continued.*

Condition or Disease.	Poultry	Cattle	Miscellaneous
Prolapse	2		
Pullorum Disease of Chicks	467		
Ruptured Liver	14		
" Oviduct	4		
" Ceca	1		
Scaley Leg	5		
Torsion of Intestines	1		
Transient Paralysis	3		
Tuberculosis	82		
Tumors	44		
Visceral Gout	11		
Worms (Round)	125		
" (Tape)	231		
" (Both Round and Tape)	55		
Flukes	1		
Fatty Degeneration and Fatty Infiltration	10		
Hermaphrodites	2		
Putrid and Not Diagnosed	52		
Totals	2,171	7	59

A REVIEW OF THE ROUTINE WORK IN CONNECTION WITH POULTRY DISEASES DURING THE PAST YEAR

J. S. Glover, B.V.Sc.

Ante-mortem and post-mortem examinations of poultry still continue to occupy a considerable amount of time, and unfortunately very little opportunity exists to make investigations that would probably result in some benefit to the poultry industry. Several investigations were commenced during the year, but had to be abandoned owing to the greatly increased amount of routine work. However, by careful observations, reviewing current literature, paying visits to poultry farms when convenient, and by attending meetings of poultrymen and poultry disease investigators when opportunities presented themselves, one was able to co-relate certain facts and render a better service than during the previous year.

The number of cases of pullorum disease in chicks was less than in 1930, and also constituted a lower percentage of all cases examined. This, I firmly believe, is an indication that more flock owners are realizing the value of the agglutination test in the detection of infected adult birds, and in the necessity of disinfecting the incubators. The single tube method of the agglutination test continues to be the most popular method of detecting reactors, although the rapid serum test, the rapid whole blood test, and the pullorin test have all been greatly improved recently, and are worthy of consideration. A few comparative tests, employing all of the above methods, have been made here during the past year, and it is hoped that sufficient will be made during the present testing season to enable one to voice an opinion regarding their respective merits. A gross post-mortem examination is made of all chicks received for diagnosis, and in most of the cases from which we finally isolate *Salmonella pullorum*, lesions are found in the lungs. In only about half of these cases is there evidence of white diarrhea.

The large number of cases listed under the heading "Nutritional Conditions," included a very large percentage of chicks and ducklings affected with avitaminosis. When our suggestion of supplementing the diet with cod liver oil and tomato juice was followed the condition in the flocks rapidly cleared up. There were fewer cases of nutritional disease among the larger birds than during the former year.

Coccidiosis continued to take a heavy toll of the poultry population. Control measures as formerly adopted were advised with the addition of keeping the young birds separated from the older ones. It is now known that recovered immune birds are a source of great danger resulting in an outbreak of the disease among a flock on land where poultry have not ranged for years. All four of the known pathogenic species of Eimeria were encountered.

It will be noted in the table that adult pullorum infection was diagnosed in one hundred and sixty-eight cases sent in for examination. This comparatively large number is an argument in favour of blood testing or pullorin testing the flock, culling the reactors and marketing them. This would result in fewer deaths from *Salmonella pullorum* infection later in the season.

Very few cases of Avian Typhoid were encountered during the past year, and those that were brought to our notice were isolated cases. No outbreaks in flocks were reported to us.

Where proper control measures were adopted very few or no cases of Enterohepatitis occur. The measures consist chiefly in sanitation, and prevention of a concentration of the causative organisms by moving the feed troughs a few feet each day. The number of cases of Enterohepatitis diagnosed in turkeys and chicken was about the same as in the previous year.

Infectious bronchitis or infectious laryngo-tracheitis is apparently on the increase. This malady, although easily recognized, does not lend itself to medicinal treatment. Control measures advised consist of segregation of affected birds and supplying additional warmth to their houses, and the instillation of a ten per cent. solution of argyrol into the eyes, nostrils, cleft palate and larynx of each affected and contact bird.

Fowl pox or avian diphtheria, owing to the fact that it can be readily prevented, does not constitute a serious complex problem with us. Comparatively few outbreaks were brought to our notice this past year, and none of these occurred in flocks that had been protected by vaccination under our supervision. Further work was done during the summer in connection with the control of this disease mainly with a view to begin to determine the duration of immunity. A large number of birds that had been vaccinated the previous summer were vaccinated a year later. In no instance was a "take" scab found on these birds when examined from ten to fourteen days later, although susceptible previously; unvaccinated birds that were vaccinated at the same time with the same virus suspension presented "take" scabs. We could therefore assume that the immunity conferred on the birds the previous season existed a year later. We also compared freshly propagated scab with some prepared twelve months previously and stored at a temperature of 6° C. Whilst the older scab had apparently not lost all its virulence yet it was found to be considerably weaker than the new scab, and it was thought advisable to use only freshly propagated scab for the preparation of our vaccine.

Very few serious outbreaks of Fowl Cholera were reported to us, although several isolated cases of the disease were diagnosed. Unfortunately, we have made little headway in dealing with this condition and have to depend on the same methods of control that have been in force for several years. However, where these measures are rigidly observed the outbreak as a rule does not assume alarming proportions.

Although eighty-two cases of tuberculosis were encountered it is interesting to note that almost without exception the birds came from small flocks. Owing to the strict methods of sanitation, proper housing, careful culling, disposal of old birds and the maintenance of a constant watch for signs of sickness we rarely find tuberculosis now in large flocks.

Infestation with worms was responsible for a very large number of cases. Whilst the owners of the larger poultry farms adopt methods of control, and periodically administer worm capsules, a large number of smaller poultry raisers continue to ignore this problem until a heavy infestation is evident. Regarding the treatment of a worm infested flock much depends on the number of birds to be treated, the severity of the infestation, and, of course, the species of worms to be dealt with. As a general rule it seems a good plan to add potassium bicarbonate to the drinking water the day before the worm medicine is to be administered. By adopting this plan we are able to rid the intestine of a considerable amount of slimy material. Powdered kamala continues to be the favourite remedy for tapeworm infestation, and nicotine sulphate for flocks infested with the large roundworms. We are recommending the tobacco dust treatment, extending over a period of several weeks, in flocks in which we have found capillaria. Much, however, needs to be done in connection with the control of intestinal parasitism, both with regard to prevention and cure.

Flukes were found in the intestine of one bird. This I think is only the second instance in the records of the college of the finding of flukes in the intestinal tract of a chicken.

Only one serious outbreak of cloacitis was brought to our attention this year, although isolated cases occurred in a few other flocks. All cases diagnosed were in White Leghorns in heavy production.

The occurrence of external parasitism to an extent that it affects the health and vigour of the birds is now apparently extremely rare in the larger flocks. Prevention by sanitation and the use of insecticides is usually carried out so efficiently that the birds are practically free from lice and mites.

Two cases of hermaphroditism were received, both of them being between the ages of seven and nine months. A report of one of these was included in the last annual report of the Ontario Veterinary College. Apparently very few fowl in which both male and female generative organs are present reach the age of six months, although several cases have been noticed by geneticists in baby chicks.

Amongst other unusual and interesting cases may be noted an outbreak of *Staphylococcus aureus* infection of the skin. Only one bird of those affected was seen as the others had been destroyed. Almost the entire body was covered with large scabs. When the scabs were removed the areas underneath presented the appearance of discharged furuncles in humans. Direct smears showed the presence of numerous cocci, and *Staphylococcus aureus* was recovered in pure culture from many of the areas.

MERCURIAL POISONING IN FOWL

J. S. Glover, B.V.Sc.

Our attention was drawn to a Barred Rock rooster that had been sick for several days. The symptoms described were not very definite excepting that the bird had lost its appetite and was, of course, getting progressively weaker and thinner. Post-mortem examination showed petechial hemorrhages on the heart, intestines, lining of proventriculus and lining of gizzard. Agar plate cultures were made, but no known pathogenic micro-organism was recovered. A short time later another bird from the same pen, and showing similar symptoms, was brought in. The post-mortem findings were almost identical with those of the former case, but *P. avicida* was recovered on culture from the heart.

As fowl cholera was known to exist in this flock and occasionally one or two birds would die from this disease it was at first thought that *P. avicida* might be responsible for the lesions found. On the other hand it was pointed out that the birds in question had been treated with mercurial ointment and that too much had been used. It was suggested that the symptoms and lesions were the result of mercurial poisoning.

To endeavour to settle the question a few birds were obtained and divided into two groups. One group was treated with blue ointment by smearing some under the vents and under the wings. The other group was used as a control. A few days later one of the birds in the treated group died after showing signs of leg weakness, and by the sixth day all birds in both groups were exhibiting symptoms resembling tapeworm infestation. A post-mortem examination revealed numerous tapeworms in all birds with the absence of any other lesions.

Some more birds were procured, divided into two groups as before, and each bird was given a capsule of nicotine sulphate and kamala. Four days later a second capsule was administered. After two more days had elapsed the birds appeared in the best of health and one group was treated with mercurial ointment. A second treatment was given three days later. On the sixth day after the first treatment dullness and leg weakness was noticed among the birds receiving the applications of mercurial ointment, whilst the other birds appeared quite normal. By the tenth day there was marked emaciation, diarrhea, dullness and paralysis in all the treated birds. A post-mortem examination was then made of all birds in both groups. No abnormalities were found in the untreated birds. In the treated birds the post-mortem examination showed the following:

Abdominal cavity:—Petechial hemorrhages.

Gizzard:—Normal.

Proventriculus:—Ecchymoses on lining.

Lungs:—Normal.

Liver:—Normal in size, slightly darker than normal, a few hemorrhagic areas.

Spleen:—Normal.

Heart:—Very pronounced ecchymosis.

Duodenum:—Petechial hemorrhages clearly seen externally, slight inflammation internally.

Ceca:—Marked inflammation.

Agar plate cultures were made of the various organs but no known pathogenic organisms were recovered.

As the only difference that was made between the two groups of birds was the external application of mercurial ointment it would appear that the lesions found in the treated birds were due to the mercury ingested by the birds during the act of cleaning their feathers

DEPARTMENT OF ZOOLOGY

The course in Zoology as delivered to first year students has been improved by means of an additional two hours per week. This time is being devoted to a systematic examination of animals in the laboratory. One or more specimens typical of each of the more important Phyla are examined and their anatomical characteristics noted and drawn. The anatomy of the lower chordates is studied by means of dissections. The lecture course is being followed out in much the same manner as in former years.

DEPARTMENT OF EMBRYOLOGY AND HISTOLOGY

Histology and embryology are taught to first and second year students. Embryology is taught to first year students during the fall term and is in the nature of a preparatory course to histology. During the spring term the first year students begin a course of histology which is extended into the second year. The course is arranged so that by the end of the student's second year practically all the mammalian tissues and organs have been examined. Thus a knowledge of the normal tissues and structures is obtained and the student is prepared to proceed with such subjects as pathology, physiology and biochemistry of which histology is a foundation.

Meat Inspection

This course is delivered to students of the senior year and consists of lectures and demonstrations. It is conducted with the view of giving the graduate who enters general practice a comprehensive knowledge of the subject and also to prepare students for entry to the Federal Service under the Health of Animals Branch.

DEPARTMENT OF APPLIED PATHOLOGY

This department serves two purposes in that it renders a service to veterinarians and to live stock owners throughout Ontario whereby diagnosis of disease is made, and secondly, from the animals and tissues sent in for examination a large amount of valuable material is always at hand for instructional purposes.

A perusal of the following table will show the number and variety of animals and disease conditions dealt with during the past year. In many instances the whole carcass of the animal was received. Sometimes living animals were submitted for examination, while in other cases portions or organs of the animal were forwarded by mail or express. The time spent upon each specimen varies with conditions. It frequently happens that several hours or even days work is required before a satisfactory conclusion is arrived at. In many instances the owner or veterinarian brings the material in person. In every case a report is furnished, either verbatim or written, stating the nature of the disease, together with suggestions as to measures of control. In many instances the owner is advised to seek expert assistance, especially where treatment or prevention by biologics is indicated. This service seems to be meeting with the approval of veterinarians and owners as is shown by the fact that over two hundred reports were mailed last year.

A large number of specimens are necessary each year for purposes of demonstration to classes of students in pathology, bacteriology and parasitology and it is from the material submitted to the department for diagnosis that such specimens are obtained. Some of these abnormal tissues are used for mounting as permanent examples of abnormal conditions. Large numbers of sections are also cut in order to demonstrate the microscopic characteristics of disease.

Nature of Case	Cattle	Sheep	Horses	Swine	Dogs	Cats	Rabbits	Fowl	Fox	Mink	Goats	Beaver	Total
Tuberculosis	6	....	....	1	....	....	....	....	....	....	....	....	7
Tumors	7	1	2	....	14	3	2	....	....	....	....	....	29
Pneumonia	5	8	2	7	2	....	....	1	8	3	....	....	36
Parasites	1	2	4	3	5	5	1	2	46	5	4	2	80
Intestinal Disease	6	4	1	6	1	....	....	1	5	....	....	....	24
Abscess	1	2	1	....	....	....	....	....	....	....	....	....	4
Peritonitis	....	....	....	3	....	....	....	....	....	....	....	....	3
Nephritis	1	....	....	....	....	....	....	....	2	....	....	....	3
Tissue from Operations	1	....	6	....	....	....	....	....	....	....	....	....	7
Hemorrhagic Septicemia	5	6	....	5	....	....	....	....	....	....	....	....	16
Deficient Diet	4	....	....	5	....	....	....	3	1	3	....	....	16
Gastritis	....	....	....	2	....	....	....	....	2	2	....	....	6
Food Poisoning	....	....	....	4	....	....	....	....	2	1	....	....	7
Abortion	....	5	11	....	....	....	....	....	....	....	....	....	16
Anemia	....	....	....	18	....	....	....	....	....	....	....	....	18
Pericarditis	3	....	....	2	....	....	....	....	....	....	....	....	5
Joint Ill	1	....	....	....	....	....	....	....	....	....	....	....	1
Mastitis	22	....	....	....	....	....	....	....	....	....	....	....	22
Malignant Catarrh	1	....	....	....	....	....	....	....	....	....	....	....	1
Urinalysis	2	....	2	....	....	....	....	....	....	....	....	....	4
Meat Inspection	10	3	....	7	....	....	....	....	....	....	....	....	20
Examinations of Pus	5	....	4	1	1	....	....	....	....	....	....	....	11
Miscellaneous	10	2	2	3	3	....	2	7	13	3	1	....	46
Total	91	33	35	67	26	8	5	14	79	17	5	2	382

THE CONTROL OF INFECTIONS OF *B. BRONCHISEPTICUS* IN DOGS

H. E. Batt, B.V.Sc.

In the Ontario Veterinary College report for the year 1930 there is to be found an article dealing with "A Contagious Disease of Dogs Caused by a Bi-polar Organism." The organism involved was proven to be *B. bronchisepticus* and a description of the symptoms, bacteriology and pathology is given, but no suggestions were offered in regard to control or treatment. Since the last college report was published methods of control and treatment have been undertaken and the following results obtained. The findings in post-mortem and bacterial examinations made during the last year coincide with the lesions and bacteriology of the disease as described in the report of 1930. Control and treatment of the condition as it occurs in the subacute or bronchial form received a good deal of attention as observations have led to the belief that if the disease can be overcome or eradicated in groups of young animals (about 2 months old) no subsequent outbreaks will occur in older animals. That is, the disease will not linger and later flare up often developing into the nervous or toxic forms. The experiments which have led up to the conclusions arrived at in this report were carried out under the usual conditions as exist in properly equipped and managed kennels where fairly large numbers of puppies are raised, as it is in this kind of establishment that the condition has been serious during the past few years. Upwards of two hundred pups were under observation during these experiments.

CONTROL AND TREATMENT OF THE SUBACUTE BRONCHIAL FORM OF THE INFECTION AS OCCURRING IN YOUNG PUPS

Prophylaxis.—The best results were obtained by the use of bacterins dating from weaning time in an attempt to produce immunity as soon as possible because, if the disease is present in the kennel, sooner or later infection will occur, especially during the cold weather months when the young stock is more or less closely housed and crowded. Several forms of biological preparations were used, being various combinations of *Streptococci*, *Staphylococci* and B. *bronchisepticus*. The polyvalent bacterin gave very fair results but it is believed that the best results were obtained from a bacterin prepared from cultures of *B. bronchisepticus* isolated from the lungs of dogs affected by the disease. These bacterins were injected every five days until four injections had been made, the first dose being one-half c.c. and subsequent doses being one to two c.c., depending upon size and vigor of the injected pup. The immunity produced is not constant in every case and the fact that a number of pups have been injected must not be taken as an absolute assurance that the disease has been banished from the litter. However, cases that do develop after inoculation are often quite mild in character and respond readily to medicinal treatment.

Homologous anti-canine distemper serum has not proven satisfactory in controlling or checking the disease. In cases where it was used alone no results were obtained but it would appear that when used in conjunction with the bacterins some benefit was derived. Perhaps this was due to the effect of blood serum as a stimulant.

Medicinal Treatment.—The subacute form of the disease seems to respond best to the drugs that exert physiological action upon the respiratory tract during their elimination. Drugs administered in the form of sprays or vapours were not efficient. In fact this mode of administration seems to excite and irritate the patient beyond reason. Swabbing the pharynx with a solution containing 50 per cent. each of Tincture of Iodine and Tincture Benzoin Comp. has given good results when used in the very first stages of the subacute form, that is, before respiratory symptoms appear. Many medicinal agents were experimented with giving various results. The best treatment so far appears to be calcidin in one-third grain doses every four hours. The calcidin tablets may be crushed up in the food and are readily taken without excitement.

Hygiene.—It is essential that the pens be kept clean and dry. Animals should have plenty of fresh air and be kept warm. Sunshine is a splendid tonic. Cold, damp quarters or close, damp quarters will aggravate the condition rendering control and treatment impossible. When proper hygiene is observed most pups suffering from this form of the disease will not go off feed and will remain bright and lively with only occasional outbreaks of wheezng and coughing. Feed well, giving plenty of raw, lean, minced beef.

THE TETANIC OR NERVOUS FORM

Treatment.—Remove animal from kennel so that absolute quiet can be obtained. Do not handle or excite in any way. Give medicine by means of dose syringe giving asperin in five grain doses every four hours. Make a solution of the drug in water to which sugar is added. The animals suffer from thirst and will take this sweetened solution readily if given very slowly with a syringe. Above all, do not excite the animal. At the same time give half a teaspoonful of whiskey well diluted and sweetened using the syringe for administration. Swallowing is difficult and care must be taken to avoid choking. Biologics and serums at this stage are of little use, nor should depressants be used.

Hygiene.—Plenty of warmth, fresh air and fresh cold water. If swallowing is difficult and animal is quite paralyzed give water slowly by means of syringe. Eggs and milk may be used to sustain strength. Wash out mouth and sponge nose and eyes several times per day using a solution of boracic acid. The mortality of this form of the disease is about 20 per cent. when the above treatment is carried out.

TOXIC FORM

Treatment is of little avail. Digitalis seems in some cases to be of value. Do not handle or excite. This form of the disease runs a very rapid course. Mortality 60 per cent. Biologics are of little value, in fact their administration seems to excite the patient and does more harm than good.

Hygiene.—Keep animal warm. Clothe the body. Do not excite. It is best not to handle patient.

DEPARTMENT OF PARASITOLOGY

A. A. KINGSCOTE, B.V.SC.

The activities of this department during the past year have consisted of teaching, laboratory routine and research work.

Under the first heading, third and fourth year students have received instruction in parasitology which has varied little from that of the previous year. The teaching of this subject has been greatly facilitated by the addition to the college equipment of a balopticon which makes it possible to project lantern slides, drawings and illustrations from bulletins and text-books upon a screen. Such illustrations aid considerably in imprinting the structure of parasites and the appearance of parasitized animals upon the mind and are also the means of saving considerable time. The changes which have been made in the methods of teaching have been done with a view of making the subject as practical and at the same time as interesting as possible. Museum material and microscopic preparations have been taken advantage of whenever possible. Animals received for post-mortem examination have been used in class work whenever they have been available. The aim of the instruction has been primarily to give students a thorough concept of the economic importance, control and eradication of zooparasites, and at the same time a generalized outline of such phases of the subject that they may be able to intelligently understand the numerous articles which are now so frequently published in veterinary and other journals.

Assistance in teaching has also been given to the Departments of Pathology, Histology and Zoology.

The course of lectures upon fur-bearing animals which was commenced last year has been continued. The aim of this instruction is to give students an elementary knowledge of fur-farming methods in general and more particularly regarding the husbandry of the animals and the diagnosis, course and treatment of their diseases. Methods of restraint, physical examination, administration of drugs and other therapeutical agents are demonstrated. The purpose of this course is to give graduates sufficient confidence to serve the fur-farming as well as other animal industries.

The routine work has been carried on in collaboration with other departments and has consisted chiefly of the examination of materials for diagnosis, autopsies, the preparation and interpretation of microscopical slides, routine blood and faecal examinations in connection with diagnostic and research work, and the preparation of museum and class material. Owing to the increased number of students in the first and second year classes it has been necessary to add to the sets of microscopical slides used in laboratory instruction, some 1,500 preparations of this nature have been made.

An increased number of parasitic specimens have been received for identification. In such cases measures of control and treatment have been recommended whenever practical. The majority of parasitic diseases recorded have been caused by species which commonly infest domestic and fur-bearing animals in this province. In a few instances species not so well known have been responsible for infestations sometimes of a serious nature. Attention is drawn to the more interesting of these cases in the subsequent paragraphs.

The Occurrence of Tapeworms of the Genus Anplocephala in the Horse

From time to time tapeworms of the genus *Anoplocephala* have been encountered during autopsies upon horses. The infestations have usually been with *Anoplocephala magna* but seldom occurred in large numbers or produced any apparent detrimental effect upon their hosts.

In two instances during the year *Anoplocephala mamillana* has been recorded. In the first case six specimens were located while in the other a large number were attached to the mucous membrane throughout the length of the small intestine. In some areas an average of fifteen parasites to each foot of the bowel were counted. A few living specimens were also located in the caecum, which is an unusual habitat for this species. Little is known regarding the effect upon the health of horses infested with *A. mamillana*, although Neumann states that in the Old World heavy infestations with this species are believed to produce chronic digestive disturbances, anaemia and general unthriftiness. Diagnosis may be made by the discovery of very short but broad segments of the tapeworms in the faeces.

The treatments for taeniasis in the horse given by Chandler are preceded by restricting the food of the patient to light mashes for twenty-four hours. Half to one and a half grains of arecoline hydrobromide in sixty cubic centimetres of distilled water may then be administered subcutaneously; or, half to one ounce of oleoresin of aspidium, two ounces of turpentine and one pint of linseed oil may be given per os.

ENZOOTICS PRODUCED BY TAENIA TAENIAFORMIS IN CATS

An unusual amount of taeniasis in cats has been drawn to our attention during the year. Where numbers of these animals have been kept together the disease has appeared as an enzootic. The highest mortality has been in half-grown kittens. The symptoms have not been conspicuous, the appetite suddenly fails, the animals remain quiet two or three days and then die. Upon autopsies the tapeworms, *Taenia taeniaformis* are found in the stomach and upper part of the duodenum. Acute gastritis is usually but not always encountered. It appears that this species of cestode, even when present in small numbers eliminate toxins to which many cats are extremely sensitive.

Prevention of this disease is difficult as the infestation is acquired by ingesting the cysticercus harboured in small mammals especially in rats and mice.

The safest taenicide to use in cats is kamala given in ten to fifteen grain doses after the animal has been fasted overnight. It is advisable to precede the treatment by administering a gastric sedative in order to prevent vomiting.

A CASE OF PARAGONIMUS KELLICOTT (LUNG-FLUKE) INFESTATION IN RANCH-RAISED MINK

The occurrence of the lung-fluke *Paragonimus kellicotti* in the case of a silver fox was mentioned in the 1930 Report published by the College. This parasite has again been recorded during the present year, on this occasion in a ranch-raised mink. The animal was found dead in its pen. On post-mortem examination the lesions were confined to the lungs. These organs were extensively congested and marked with six inflammatory swellings each of which contained a quantity of exudate and a pair of the flukes which were about the size and appearance of a coffee bean. The animal had for some time been fed white fish trimmings which may have harboured the cecariae. These fish were caught in the Great Lakes. The occurrence of this parasite is of considerable significance on account of the variety of hosts to which it is able to adapt itself and because of the serious lesions which it sometimes produces in the lung or brain.

A NOTE ON TAENIASIS IN BIRDS

Tapeworm infestation with species of *Hymenolepis* have seldom been encountered among the numerous birds examined at the College. This year, however, two enzootics in flocks of chickens have been caused by an unidentified species of *Hymenolepis* and one in ducks by *Hymenolepis coronula.* In all cases the parasites were present in large numbers.

LOCAL VARIATIONS IN THE HABITS OF THE WARBLE FLIES, *HYPODERMA BOVIS* DE GEER AND *HYPODERMA LINEATUM* VILLERS, TOGETHER WITH NOTES UPON EXPERIMENTS TO PRODUCE ARTIFICIAL IMMUNITY AND UPON SALT SOLUTIONS AS A LARVICIDE

The following is a record of the work which has been done by the Ontario Veterinary College under the above heading. The investigations have been conducted in collaboration with the Ontario Research Foundation under the direction of Seymour Hadwen.

The inquiries have been of a threefold nature summarized under the following headings:

(1) To study local variations in the habits and life-cycles of *Hypoderma bovis* De Geer and *Hypoderma lineatum* Villers giving particular attention to those phases of which a knowledge will be of value in control;

(2) To ascertain whether or not a degree of immunity may be produced artificially in young cattle which have not acquired such naturally;

(3) To conduct experiments to establish the efficacy of supersaturated salt solutions as a larvicide when applied to the backs of infested animals.

Under the first heading the work has been conducted almost entirely by the College, whilst under the second and third headings Seymour Hadwen and R. Gwatkin have done the investigations receiving such collaboration as has from time to time been required.

Observation upon the Larvae

Observations have been made under the above heading with a view of ascertaining the most advantageous time during the season at which to apply larvicides to the backs of infested animals. Several workers in this field have shown that the time when the larvae reach the back differs considerably at different latitudes and in varying climates, but as far as it is known no definite scientific data in this connection has hitherto been available for Ontario.

Records concerning the larvae were kept from the beginning of the New Year and continued until after the herds were turned out to pasture in the middle of May. The accompanying figures summarize the information which was obtained. Figures I and II are a seasonal record of the times when the larvae penetrated the skin. Ninety-six animals belonging to the Ontario Agricultural College were inspected at approximately weekly intervals; thirty-six of this number were infested; the largest number of larvae appeared on the backs of the youngest animals. The species to which the larvae belonged was ascertained from time to time by the methods of Laake and in all but a few cases were found to be *Hypoderma bovis.*

It is interesting to note the high percentage of mortality in those larvae which penetrated the backs of their host in the early part of the year. All those which did so prior to the 6th of March, died without developing from third to fourth instars. This fact is of significance in supporting the theory that the third instar is the most delicate and practical to attack.

The first record of the season for larvae reaching the back was made at Brantford, Ontario on December 24th, 1930. Larvae were rarely seen in January and early February but from then on commenced to appear in increasing numbers. Those of *H. lineatum* were most numerous from the middle of February to the middle of March, whilst those of *H. bovis* appeared in greatest numbers from the middle of March to the latter part of April. From then on the appearance of new larvae became less and less. The last specimen was recorded on August 11th.

The larvae of *H. lineatum* only formed a small percentage of those collected from the College herds, and later in the season the scarcity of the adult flies indicated that during the present year this species was rare in the vicinity of Guelph.

When larvae were being collected for identification it was noted that the third instars made a very minute hole in the skin and that they were extremely

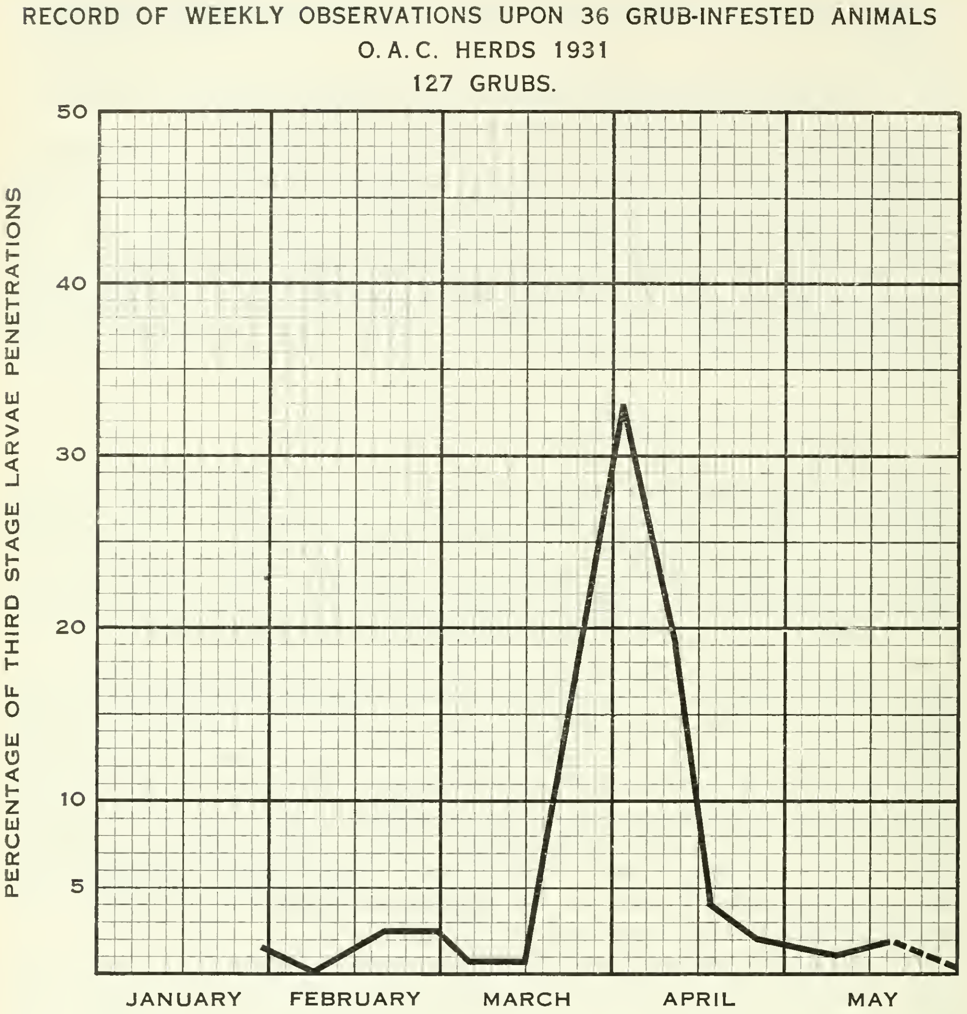
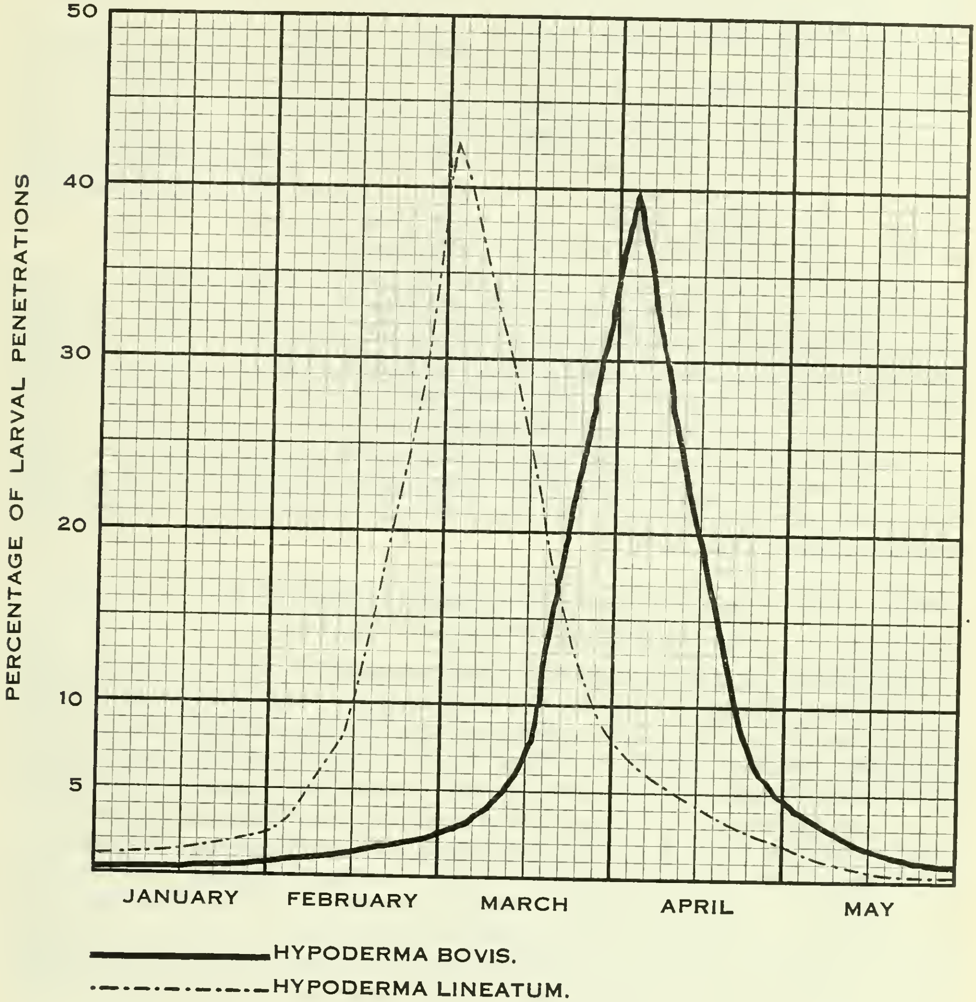


Figure No. 1

difficult to remove until the formation of pus which occurred in a few days. If the larvae were left unmolested until the development of the fourth or early fifth instars their comparatively rapid increase in size with the corresponding failure of the opening in the skin to enlarge made it again difficult to remove them. During the later period of the fifth instar development, much of the tissue on the edge of the openings in the skin apparently became necrotic thus enlarging the hole and making it again possible to remove the larvae with comparative ease. Thus, when manual removal of the larvae is practiced the most suitable time is several days after the skin is penetrated, a time when they come out quite easily, and when the lumps are still small and the lesions heal rapidly. A weekly inspection of the backs of cattle in dairy herds from the middle of February to the end of April would thus make it practical to remove most of the grubs before the lesions had become serious. Such lesions may be easily located by running the palm of the hand over the back.



RECORD OF 86 GRUB-INFESTED ANIMALS — 900 GRUBS. EXAMINATIONS MADE UPON MISCELLANEOUS HERDS 1931

Figure No. 2

Hypoderma Bovis as an Incidental Parasite in Horses

On May 24th, 1931, two horses on a farm near Wellesley, Ontario, were examined and found infested with warbles. One, a yearling colt had seven lumps which were distributed under the skin on the shoulders, over the spine and on the gluteal muscles. Another, a two-year-old animal, had two lumps over the lumbar processes. All the warbles were of a uniform size. The extracted larvae proved to be fifth instars of *H. bovis*; evidently young as the spiracles were light in colour. As is the case in cattle a considerable quantity of pus surrounded the larvae. The colts were well-bred, fine-skinned animals. They had been at pasture with cattle the year previously.

A NOTE UPON THE EARLY DEVELOPMENT OF H. BOVIS

No experiments were carried out in this connection, but an opportunity arose to record in one instance the period of time which elapses from oviposition until the third instars penetrate the skin.

On July 28th, 1930, a calf was born at pasture. Following the usual practice respecting beef animals in this herd the calf was brought into the barn and placed in a loose box where it remained continuously until the spring of 1931.

On March 27th, 1931, nine warble lumps appeared upon the back of the calf. Six of these were marked with a scab and matted hair, indicating that the larvae had recently penetrated the skin. The remaining three had not done so. The openings already made were small and larvae extracted with difficulty were identified as third instars of *H. bovis.*

From what is known of the habits of the warble flies it appears unlikely that in this case a fly had entered and oviposited in the barn, thus this calf apparently became infested during the first morning of its life. (Meteorological Records show this was a suitable day for warble flies to be on the wing). Some twenty other calves kept under identical conditions in the same section of the barn remained free from warbles throughout the season of larval penetrations.

As the larvae in this case had just reached the back the period of incubation for the ova and the time required for the development and migrations of the first three instars would be equal to the age of the calf which was two hundred and forty-two days or eight months.

OBSERVATIONS UPON PHYSICAL PHENOMENA CONCERNING THE LAST THREE INSTARS OF HYPODERMA LARVAE

On March 9th a jar of larvae in water, consisting of different instars, was carried from Toronto to Guelph. On their arrival at the latter place Hadwen drew attention to the fact that the integument of the third stage larvae was more permeable than that of the two later stages, as all the younger instars were dilated with a great quantity of fluid, while the older larvae showed little indication of this phenomenon. These idiocyncrasies were again noted under similar circumstances on the 16th and 23rd of March, and seen from time to time again when larvae were collected from the College and other herds. The changes were evidently osmotic in nature. This phenomenon is of considerable significance if it is to be taken advantage of in control measures. It has already been mentioned that there is a high percentage of mortality among third stage larvae in nature, hence it appears that this third stage is the most delicate and the most feasible stage to attack in the entire life-cycle.

SUPERSATURATED SALT SOLUTIONS AS A LARVICIDE

One experiment under the above heading was conducted by the College. On February 28th, a steer infested with thirteen warbles was used in a test. One larva was removed and recorded as a well advanced fourth instar of *H. bovis.* A salt solution was prepared by adding commercial sodium chloride to boiling water until no more continued to dissolve. After cooling, the back of the animal was thoroughly soaked with the solution. This treatment was repeated at weekly intervals on three more occasions. On March 2nd, two larvae were removed, they were not dead but unusually inert and failed to respond to stimuli such as bright light and warm water even though exposed to these for some time. On April 28th the steer was killed; one larva was still alive but all that remained of the other nine was their mumified forms The usual purulent and inflammatory matter in the warbles and adjoining tissue was absent. No irritation was produced by the salt solution upon the treated animal's back.

In this experiment a heifer in the same herd was used as a control. There were twelve warbles on her back; one was removed on the 28th of February, another on the 2nd of April and the remaining ten were alive and normal on the date when the steer was killed.

In this test the instars were well developed, the holes large so that some of the salt may have directly contacted the larvae, whereas the principle of the salt treatments is intended to destroy the young larvae before or shortly after they penetrate the skin.

Notes on Experiments in Connection with Artificial Immunity

The investigations under this heading were almost entirely conducted by Hadwen and Gwatkin, hence only the experiments made by the College are reported upon. On March 23rd, seven principals in immunity experiments received their fourth and last weekly inoculation of material prepared from Hypoderma larvae. Then on March 28th, ophthalmic and intradermal tests were conducted. The temperatures of these seven animals were taken and also that of a control (a steer of an age ensuring it had never been naturally infested with warbles). A drop of pure fluid freshly obtained from living larvae was placed in an eye of each animal and another small drop injected intradermally in the caudal fold.

In the seven calves previously sensitized, lacrymation and local reactions about the eyes soon became manifest and oedematous warm swellings rapidly developed in the caudal folds. In a few hours these attained a size varying in different individuals from that of a walnut to a hen's egg and were still present late in the evening, although the ophthalmic reactions had subsided a few hours after the application of the drops in the eyes.

The temperatures taken at intervals, showed no more variation after than before the test except in the case of one animal in which it rose two degrees but soon returned to normal.

The animal used as a control, on the other hand showed no indications of a reaction to the larval fluid save a slight initial oedema over the site of the injection in the caudal fold, which, however, soon passed away.

The day following the tests all swellings had subsided without the formation of pus. Blood films prepared from the site of the injections and duplicate smears from blood extracted from the tips of the tails showed no increase in eosinophiles or other leucocytes.

The tests were repeated at a later date with similar results except that the ophthalmic reactions were not pronounced.

It is possible that a slight reaction of the above nature produced by the penetration of the skin by the first instars in naturally or artificially immunized animals may interfere with the vitality and migrations of the parasites.

Hypodermal Rash in Artificially Immunized Animals Previously Uninfested with Larvae

The apearance of a hypodermal rash, such as occurs in animals suffering from their second and subsequent infestations with larvae, was carefully watched for in the seven artificially sensitized calves. During the summer when the flies were most numerous and gadding at its worst, lesions of the above nature consisting of matted hair and scabs in the regions where *H. bovis* oviposits were seen on various occasions upon the principal but never upon the control calves. A number of the scabs were removed, in two cases small conical pits were noted in the underlying skin, but careful microscopical examination failed to reveal any trace of the ova, a discovery which would have definitely proved this hypodermal rash. The eggs, however, could have readily escaped notice in the debris, as they are more difficult to find in the case of *H. bovis* than in that of *H. lineatum*. The criticism could be made that these were lesions produced by the bites of *Stomoxys calcitrans* or of the *Tabanidae*, but such lesions were confined to the areas where *H. bovis* usually oviposits, and were absent in such places as the biting flies generally attack and in the control animals.

Notes on the Appearance of the Adult Warble Flies in Ontario

The time of the year when the adult warble flies cause the most annoyance to cattle has been shown to vary in different geographical regions. It has been suggested that a knowledge of this fact may be taken advantage of by protecting animals during the period, a comparatively brief one, when the flies are the most abundant, thus not only preventing a great deal of the trouble produced by gadding, but also to avoid heavy infestations with the larvae later in the season. Little definite information regarding the appearance of the flies in greatest numbers has hitherto been available for Ontario.

It is perhaps worthy of note that at least one prominent cattle breeder in this Province has found it advantageous to keep his herd in the barn during the hottest days of the summer when warble and other flies are at their worst.

Records have been kept upon the days when the flies appeared on the wing and when the cattle gadded. The first appearance of *H. bovis* was on the 26th of May. This year *H. bovis* attacked local herds throughout June but not persistently until the 26th of that month after which date the flies continued their activities until the end of the first week in July. A change in the weather then coincided with the discontinuance of attacks by the flies, which, however, were resumed on the 25th and 26th of July. The last definite record for *H. bovis* was made on the 18th of August, the only appearance of the fly during that month at Guelph. This data, together with observations of cattle owners during this and previous years, indicate that the period each season when *H. bovis* is most abundant is approximately from the middle of June to the end of July. The appearance of the flies prior to and after this time is spasmodic and this year, at any rate, at intervals of several days. One instance of gadding was recorded in October.

The records for the first appearance in the season of *H. bovis* agree closely with information obtained by the Department of Entomology at the Ontario Agricultural College. In 1919, about two years after gadding had become noticeable in certain parts of the Province a circular letter was forwarded to Agricultural Representatives with a request to note the first appearance of the fly. Specimens were caught and sent into the Department. The first record was May 28th and subsequent records were similar to those noted this year in the early part of June.

It was possible to predict quite accurately the time when *H. bovis* would appear in the summer by making deductions based upon the time the third instars reached the backs of their hosts. These conclusions were arrived at by utilizing Bishopp's figures for the average period of time that the larvae are in the back plus the average duration of pupation which together total to a little over three months. Early or late larval appearances in the back or variations from the average would account for occasional flies attacking the cattle before or after the time above mentioned. Such calculations when applied to *H. Bovis* indicated that the flies would be most prevalent in the latter part of June and early in July which actually proved to be the case.

An effort was made to obtain similar information regarding *H. lineatum.* On suitable warble days from April onwards the cattle at rest in the College pastures were kept under close observation to obtain information regarding the appearance and prevalence of the species in question, but the fly was never seen, nor at any time were its ova, more conspicuous than those of *H. bovis* observed on the numerous animals examined.

The information sought, however, may be gathered by reasoning, which it has already been shown was accurately done in regard to *H. bovis.* Thus in districts where *H. lineatum* is prevalent the adult flies would be the most numerous in the latter part of April and in May, for the larvae penetrate the skin in greatest numbers in February and in March and the total time in the back and for pupation together average approximately three months. Incidentally the weather during the latter part of April and in May was on a number of days quite suitable for *H. lineatum* to be ovipositing. To quote Bishopp again, this species has been observed to ovipost at forty-three degrees Fahrenheit while during April and May of the present year the mean temperature at Guelph was considerably higher than this.

The observations on *H. bovis,* with few exceptions, show that during the past season this species preferred warm, still days on which to oviposit. The fly seldom attacked before ten o'clock in the morning or after three o'clock in the afternoon. It appeared on occasions during the hours of sunshine immediately following rainfall. On June 28th, warble flies were seen at work in three different herds although the sun was veiled by clouds during the whole day. Barometric pressure had no definite influence upon the appearance of the flies. Upon twenty days when the flies were about or the animals seen gadding, in nine the barometer was rising and on eleven days falling.

Notes on Gadding

On days when gadding was much in evidence the observations could best be made by waiting until animals came to rest for a few moments. When they commenced to graze again a picked animal was followed about the pasture. Under such conditions flies of the genus *Lyperosia* (horn flies) soon resumed their position on the shoulders and back. At this species of biting fly the animal would lash its tail, shake itself or occasionally turn its head to brush the flies way. Shortly biting flies of the genera *Stomoxys, Tabanus* and *Chrysops* would be attraced to the animal, but even when quite numerous little more attention was paid to these species than to the horn flies. Although the animals occasionally raised a foot to strike at the larger biting flies never did they commence to rush about or gad. The attack of *H. bovis* when it came was always characteristic and would be initiated by the appearance of a dark fly, swift of flight, coming from behind or from one side of the observer. The fly would strike once or perhaps twice, when the object of its attack would cease grazing, throw up its tail and commence a wild rush about the pasture. The fly could be followed for a considerable distance once the eye had picked it up. It would strike the posterior parts of the animal, lose ground for several feet, but hasten its flight and strike again, repeating the performance until its victim found shelter in the shade of a tree or building when the fly would disappear as suddenly as it had come. On days when the flies were particularly numerous when one animal in a group commenced to gad those in the immediate vicinity would do likewise but soon ceased unless followed by a fly. As a result of the continuous attacks by the flies in the latter part of June and in July animals lost a considerable amount of flesh, became poor in condition and frequently broke horns or in other ways injured themselves whilst attempting to escape the parasites.

SUMMARY

As a result of the work carried out at Guelph the following information has been obtained regarding local variations in the life-cycles or habits of the Warble flies in Ontario, some of which data it is hoped will prove of value in intelligently applying measures of control.

The period required for incubation of the ova and the migration through the tissues until the time when the skin of the back is penetrated by the third instars, in the case of nine larvae of *H. bovis* infesting one animal was from 242 to 245 days.

The larvae of each species of Warble flies commence to reach the backs of their hosts in small numbers during January. Those of *H. lineatum* penetrate the skin of the back in greatest numbers from the middle of February to the middle of March, and those of *H. bovis* from the middle of March to the latter part of April. A few larvae of both species continue to appear in the back from April to the end of the summer months.

The third instars of both *H. lineatum* and *H. bovis* are more delicate than the fourth or fifth instars. There is naturally a high percentage of mortality amongst the third instars which reach the back early in the year. The integument during this stage is more permeable than in later stages; it is the least resistant form occurring in the back and is the most feasible stage to attack.

Treatments intended to destroy third stage larvae should be commenced prior to the middle of February and continued until May. Larvicides which it is customary to inject through the openings in the skin may be applied to the greatest advantage in March, April and May. The parasties are most easily removed from the back by manual means a few days after they first appear. The small lesions may readily be detected by passing the palm of the hand over the back on either side of the spine. In dairy herds a weekly examination may be made with little expenditure of time. The formation of large lumps containing a great deal of purulent matter is thus prevented and the lesions heal much more rapidly. Fourth and early fifth instars are often difficult to extract unless the skin is further mutilated by enlarging the hole with a knife.

In the case of a steer treated with four weekly applications of a supersaturated solution of salt ninety per cent. of the larvae in its back perished, whilst in an untreated control animal the larvae all remained normal. The steer was in no way harmed by the brine.

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Appreciation of the co-operation which has made it possible to obtain the foregoing information is gratefully acknowledged. For the part of this work conducted at Guelph special thanks are due the personnel of the Departments of Animal Husbandry, Entomology and Agricultural Engineering of the Ontario Agricultural College, to the Department of the Provincial Zoologist and to

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ONTARIO

Report of the Commissioner

In the matter of

The Workmen's Compensation Act

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In the Matter of The Workmen's Compensation Act

REPORT OF THE COMMISSIONER, THE HON. MR. JUSTICE MIDDLETON.

To His Honour
The Lieutenant-Governor of the Province of Ontario.

May It Please Your Honour:

By Commission bearing date the 22nd day of January, 1931, issued under the provisions of The Public Inquiries Act, I was directed to inquire into and report upon and make recommendations regarding the advisability or otherwise of making amendments to The Workmen's Compensation Act upon subject other than detail administration.

Pursuant to this Commission I was furnished with the files from the Attorney-General's Department containing many suggestions with reference to this Act, and to the operation of the Board appointed under it. I caused public notice to be given of the holding of public meetings for the purpose of hearing and considering any suggestions that anyone might desire to place before me as Commissioner. Notice of the sessions of the Commission was duly given to all those who appeared to me to be particularly concerned in the matters to be investigated, and the hearing was attended by representatives of the various interests, all of which will appear in detail by reference to the stenographic notes of the proceedings which accompany this report.

The Workmen's Compensation Act was passed in the year 1914, and came into operation in the year 1915. The Act was passed after very careful investigation of the entire situation by the late the Honourable Sir William Meredith as Commissioner. The intention was to substitute for the individual liability of the employers at common law, and under various statutes modifying it, a scheme of compensation to workmen who might suffer injury in the carrying on of industrial occupations. The Act called for the establishment of a fund, to which all employers were compelled to contribute, to be administered by a Board appointed by the Government. The great bulk of the employers falling under what has been called "Schedule 1," contributed to a collective fund, out of which compensation to any of their employees should be made, the amount of the contribution to the fund in each case being determined by the Board. The Board was empowered to divide the industries throughout the Province into classes, and to determine the amount to be contributed by each class and by each member of the class. The amounts payable depend upon the number of employees in each case, the wages paid and the experience of the Board as to the amount of compensation necessary to be paid. There is provision in the Act allowing the Board to increase the amount payable by the employers as a class or as individuals where experience indicates this is the proper course to adopt, and there is also power to reduce the amount payable where experience justifies it, a scheme of merit or demerit rating being contemplated.

Certain large industries, mainly the railways, the Bell Telephone Company and certain shipping industries are placed under "Schedule 2" of the Act, these having been deemed large enough to justify treating each industry separately.

As to these there is no collective liability, but each industry is made liable for the accidents occurring in its operations. In the case of compensation payable either collectively or individually over a number of years an amount estimated as adequate to meet the total liability is immediately payable. Each year is thus made responsible for the total liability for accidents occurring in that year.

The great importance of this change in the law is indicated by the amount which has been contributed annually to this fund since its inauguration. The amount awarded by way of compensation for the year 1928 was $7,067,946, for 1929 $8,012,157, for 1930 $5,925,503. The amounts paid increased annually until 1930. The decrease in that year is largely the result of industrial depression.

This scheme of compensation in the place of legal liability based upon negligence has worked well and has given complete satisfaction to all those concerned. It has been a great advantage to the general public for it has avoided the expense incident to the litigation which prevailed under the former system. To the workmen it has brought compensation without the burden of establishing negligence. The employer has been relieved from the uncertainty arising from litigation and has had substituted for it a fixed payment which he can regard as part of his overhead expense. He has the further satisfaction of knowing that practically all the money paid by the employers reaches the hands of the workmen injured. Figures for Ontario are not available, but in England under the former law less than 50 per cent. of what it cost the employers reached the men.

That the Act has given satisfaction to the workmen is indicated not only by the cordial endorsation of the scheme by those representing them before me, but also by the report of the special committee upon the operation of this statute submitted to the convention of the Trades and Labour Congress of Canada at Edmonton in August, 1927. In the course of this report it is said (page 6):

> "The fact that there are between 50,000 and 60,000 accidents reported to the Board annually and that about 99 per cent. of all claims for compensation are being satisfactorily adjusted without any difficulty, is complimentary not only to the administration of the Act but also to the measure of co-operation of employers, workmen and medical men generally throughout the Province. Moreover, it is a practical demonstration of the effectiveness and merit of the present scheme of providing compensation to injured workmen as against the old law with its intolerable delays and uncertainties due to the nuisances of litigation."

And again this same body made a finding (page 7):

> "that over 97 per cent. of the claims for compensation have been adjusted without any difficulty and that less than 3 per cent. are regarded as 'problem' cases."

Before this Commission there is no suggestion on the part of any employer looking to the reversion to the former system or to any departure from the scheme of workmen's compensation.

For these reasons the work of this Commission has been the investigation of comparatively minor matters which are yet of very great importance as will be seen from what follows.

Increased Compensation Asked by Labour

The report submitted to Trades and Labour Congress at Edmonton, after a very careful investigation of difficulties that had arisen in the operation of the Act, makes twenty-one recommendations looking to the amendment of the Act. Before the Commission those representing the cause of labour reduced the matter there complained of to twelve requests for legislation. Of these, five (Nos. 3, 6, 7, 8 and 9) may conveniently be considered together as they are requests for increased compensation under the various provisions of the statute.

No. 3 asks that the basis of the maximum wage for the purpose of compensation shall be increased from $2,000 to $2,500. This would involve an amendment to Sections 11, 43 and 96.

No. 6 asks as an amendment to Section 35 an increase in the amount payable for funeral expenses and by way of monthly payments to the widow and dependants.

No. 7 asks for an increase of the proportion of wages payable from 66⅔ per cent. to 75 per cent. in the case of permanent total disability; Section 38.

No. 8 asks for a similar change with reference to permanent partial disability; Section 39.

No. 9 asks that Section 32 be amended so as to make the minimum payable for total disability, either permanent or temporary, $15.00 per week in place of $12.50 as at present.

Embodied in recommendations 7 and 8 is a further recommendation which much be considered separately.

There is also a recommendation from the National Labour Council that where the amount payable is less than $25.00 per week the full amount, 100 per cent. of the wage should be paid instead of either 66⅔ or 75 per cent.

These recommendations are followed by a note asking that the increased compensation under the Act, if it should be amended, should apply to all payments accruing after the going into effect of the amendment, whether the accident happened before or after the amendment, and whether the award of compensation has been made or should thereafter be made, but it is not suggested that the amendment shall entitle any person to claim any additional compensation for any period prior to the making of the amendment.

For the purpose of appreciating the true significance of the amendments sought I obtained from the Board an estimate of the increased financial burden these prospective changes would cast upon the fund. I am told that the making of this estimate has been attended with much difficulty owing to the extraordinarily large number of items that have to be considered, but its substantial accuracy has not been challenged. The report is as follows:

ESTIMATED COST OF PROPOSED AMENDMENTS

	For Accruing	For Subsequent Years
A. 1. Increase of widows' pensions	$1,730,000	$217,000
2. Increase of workmen's pensions	2,440,000	(Included with 8c)
3. Increase of children's pensions	215,000	135,300
4. Increase of burial expenses	....	10,425
5. Increase of maximum to $2,500	75,000	125,000
6. Increase of minimum	150,000	75,000
7. Artificial Appliances	785,000	90,000
8. Increase from 66 2/3 to 75%		
(*a*) Accruing Cases (current year cases)	375,000	....
(*b*) Temporary Disability	Included in 8 (*a*)	438,000
(*c*) Permanent Disability	Included in 8 (*a*)	285,000
(*d*) Death	Included in 8 (*a*)	Included in 1 & 3
	$6,370,000	$1,375,725
B. National Labour Council—		
Increase to 100% if less than $25. Weekly	....	1,250,000

"For Accruing" means the amounts which would be necessary to bring all cases up to date affected by the proposed amendments up to the standards designated in the amendments.

"For Subsequent Years" covers the annual amounts that would be required under the proposed amendments in addition to amounts included under "For Accruing."

These figures show that for the purpose of meeting the increased liability suggested by the Trades and Labour Congress in respect of accidents that have already taken place, it would be necessary to raise at once the sum of between six and seven million dollars, and that in the future the annual increase would not be much less than a million and a half dollars with a still further annual increase of a million and a quarter if the suggestion of the National Labour Council should be accepted.

After very carefully considering these requests I have come to the conclusion that for the following reasons none of them should be granted.

First: The present condition of industry is such that it is impossible to contemplate casting any such burden upon it as that proposed. It would mean disaster.

Second: Even if it be assumed that the present condition of industry is the result of financial depression and that before long it will recover, no such burden should be imposed. At the present time the allowances under the Ontario Act are the highest paid anywhere. In comparatively few places are the allowances as large as in this Province. Our industries have to compete in the world market and to impose upon them a greater burden than that borne by industries elsewhere is to handicap them so as to make success impossible. This would operate as much to the detriment of the workman as of the employer.

Third: The whole scheme of the Act and the principle underlying it is in the nature of insurance. The workman contributes nothing to this scheme save that which he unknowingly contributes as a member of the public and by his failure to secure complete indemnity. It was because of his contribution as a member of the public that by the original Act he was given fifty-five per cent. of his wages instead of fifty per cent. as originally suggested. When the increase was made from fifty-five per cent. to sixty-six and two-thirds per cent. the burden upon industry was very substantially increased, and I do not think that any circumstances now existing or likely to exist in the near future would justify any further increase. The actual amount secured to the individual workman is greater than at first sight appears as in addition to the 66⅔ per cent. of wages the industry pays medical expenses. In 1929 these amounted to $1,385,524 and in 1930 to $1,336,046.

Fourth: The increase suggested with reference to accidents that already have happened would be a complete departure from the scheme of the Act, which is that the industry as it existed at the date of the accident should bear the entire financial burden resulting from the accident. The increase, if granted would cast upon the industries of to-day a substantial share of the financial burden resulting from accidents in past years. How great this would be can be appreciated by comparing the amount necessary to be raised in the first year, over $6,000,000, with the total reserve now on hand with the Board to meet future payments, somewhat over $26,000,000.

I think I shall not be going beyond the scope of my investigation if I draw attention to the enormous amount of money spent by this Province in the carrying out of schemes of social betterment. I refer to the figures given in the pre-sessional statement of the Provincial Treasurer in THE ONTARIO GAZETTE before the session of 1931. It is there said:

> "Ontario stands admittedly in the forefront of the Provinces in regard to social legislation. Such legislation, placed on the Statute Books with the purpose of improving the conditions under which our people live, extending equal opportunities to all, and ameliorating the conditions of the underprivileged and mentally deficient, involves the expenditure of large sums of money. Such expenditures, from the very nature and aim of the services rendered, must necessarily expand from year to year, and result in benefits far in excess of the actual money involved. A summary of the gross expenditure of the above nature during the year is enlightening:

Bonus to Rural Power Lines	$1,689,000
Education	11,774,000
Prevention of Disease and Public Health Education	880,000
Public Institutions, Hospitals and Charities	8,025,000
Children's Aid and Protection	288,000
Old Age Pensions	6,572,000
Mother's Allowances	2,369,000
These make a total of	$31,597,000

This statement later on shows that the total ordinary expenditure of the Province amounted to almost $58,000,000. Of this almost $12,000,000 were public debt charges, leaving for expenditure other than payment of debt and interest on debt, $46,000,000. Of this $31,500,000 was spent on what is described as social legislation. But this is by no means all that was spent for these laudable purposes. The benefits awarded through the Workmen's Compensation Board amounting to $8,000,000 is not included, nor is there included the very large sum spent by municipalities for similar purposes. If there be added to this provincial statement the amount spent by municipalities for the purposes of education, hospitals, public charities and other like causes the total may well be regarded as appalling. It must be remembered that while the Province of Ontario has a population of a little over 3,000,000 a very large proportion of these are not wage earners or in receipt of any income, and that the burden of taxation falls upon a comparatively small proportion, probably less than ten per cent. of the whole.

No right thinking person would begrudge the expenditure of this money; the causes are all worthy, but extreme care must be taken to see that a situation is not created in which the burden imposed upon the earner will be greater than he is able to bear. I very much doubt whether in any community save the Soviet States social legislation has been carried any further than in this Province. It would be disastrous if we should be compelled to recede from the advanced position that has been taken.

Considering the other matters submitted it is convenient to take them in the order in which they were presented.

The Inclusion of All Employees

Under Section 84 of the Act the Board is authorized to exclude from the operation of the Act industries in which not more than a stated number of workmen are usually employed, and may afterwards add such industries to the class insured either at the instance of the employer or at the instance of any workman employed in the particular industry who desires the industry to be brought under the Act.

Pursuant to this power two regulations were passed by the Board, namely: Regulation 45, which excludes a number of industries where less than six workmen are usually employed; and Regulation 46, which excludes certain other industries where less than four workmen are usually employed. Among these industries so excluded are industries in which accidents are said to be by no means unknown, *e.g.*, cutting and supplying fire wood, hewing, piling, hauling of logs, wood or bark, logging, bark peeling, creameries and dairies, power laundries, blacksmith shops, repair shops and butchering.

Under Section 83 of the Act the Board is given a wider power, namely, power to exclude from the operation of the Act any particular class of industry. Pursuant to this power by Regulation 43 many industries are entirely excluded from the Act.

It is admitted that it is not practicable or desirable to attempt to bring domestic and farm workers under the statute.

Cases which do not fall under the compensation scheme of the Statute fall under Part II of the Act which greatly modifies the common law and imposes a liability where a personal injury results from any defect in the condition or arrangement of the ways, works, machinery, plant, buildings or premises used, or by reason of the negligence of the employer, or of any person in the service of the employer acting within the scope of his employment. This statute also deprives the employer of certain common law defences, *e.g.*, voluntary assumption of risk and non-liability in the case of negligence of a fellow servant.

In most cases the employer who is excluded from the operation of the compensation scheme prefers to remain liable on the basis of the statutory provision of Part II, and is glad to be free from the obligation to pay the assessments under the compensation scheme. In the case of these small industries falling under Part II, too often the liability of the employer results in no benefit to the injured employee as the employer is not financially able to meet his liability. The employees as a body seem to be indifferent as they fail to understand or appreciate the true situation. Where the employee is given a right of option under Section 84 it is very seldom exercised, partly because of this ignorance or indifference, and partly because any action of the employee would be resented by the employer.

The remedy for this situation is not easy to find. Any attempt to bring all the excluded industries under the operation of the Act would impose a tremendous burden upon the Board and would be impracticable. The expense of administration would be disproportionate to any benefit that would result. It is quite impossible to form any estimate as to the number of accidents occurring in the excluded classes, and of the extent to which those injured fail to obtain compensation under the existing law. However, few actions reach the Courts to which Part II of the Act is applicable. Before the passing of the Act there were innumerable cases which now fall within Part I.

No concrete suggestion as to how this situation should be met has been placed before me, and I find myself unable to suggest any entirely satisfactory solution. I am not sure that the matter falls within the scope of my Commission. It appears to me that it is really one relating to "matters of administration under the Act" and the situation does not call for any amendment to the statute. If those interested in the workmen would, as an organized body, apply to the Board to modify the regulations made under the Act so as to bring further individual industries under the Act, I am sure the Board would grant a sympathetic hearing.

I have received many communications drawing attention to the risk of workmen engaged in lumbering operations and the production of firewood. Upon the hearing special emphasis was laid upon the case of engineers employed in heating plants, hotels and public buildings, chefs, cooks and waiters in the catering industry and employees in cheese factories, dairies and garages. The Board may well consider the necessity of amending the regulations in respect of these.

Contract System in Lumbering Industries

In certain industries, particularly in lumbering operations and the cutting of firewood, it has been suggested that the Act fails to afford the workman adequate protection because of the adoption of a contract system in the carrying out of the operations. The men who actually work in the woods are employed by others who are either contractors or subcontractors for the doing of the work. The industry itself employs no one. The contractors or subcontractors make no returns to the Board and pay no assessments. They cannot be ascertained or, if ascertained, the number of men employed by the individual contractor or subcontractor is so small that the case falls under Regulations 45 and 46. The liability under Part II, as already pointed out, affords no real protection to the men employed. It has been suggested that this state of affairs is brought about by the industry as a means of avoiding assessment under the Act. I am inclined to think that this is not the case and that the contract system is a mode of carrying on business adopted for entirely different reasons. It is found that it produces better results. The vital interest of the contractor or subcontractor is more effective than the languid interest of inspectors and foremen.

No practical method of enabling these men to participate in the benefits of the compensation has been suggested.

Serious and Wilful Misconduct

Under Section 2 of the Statute the workman is deprived of the right to compensation where the injury "is attributable solely to the serious and wilful misconduct of the workman, unless the injury results in death or serious disablement."

What is sought by the workmen is an amendment abolishing this provision and substituting for it a provision disentitling the workman only in cases where it can be proved that the injury was wilful and intentional on the part of the workman.

The statute intended to eliminate and does eliminate all questions of negligence on the part of the workman, and where the injury results in "death or serious disablement" compensation is given, no matter how great the misconduct on the part of the workman. The question of serious and wilful misconduct becomes important only in the case of injuries that do not result in "death or serious disablement." What amounts to serious and wilful misconduct cannot be defined. It is in each case a question of fact and of degree. All that is plain is that it must be something beyond mere negligence or forgetfulness. The statute does not make mere violation of a rule an answer to the claim. If there has been violation of a rule the nature of the rule and the nature of the violation of the rule must be considered before the Board can find serious and wilful misconduct. There are many cases in which the violation of a rule cannot be considered as serious and wilful misconduct.

Where serious and wilful misconduct is found and the result is neither death nor serious disablement there should not, in my opinion, be compensation. The statute has gone a very long way in imposing a liability upon the industry where the liability arises from serious and wilful misconduct on the part of the workman in cases resulting in death or serious disablement. This may be justified upon grounds of public policy, but I think it would be against all public policy to impose a liability for a minor injury resulting solely from the workman's serious and wilful misconduct.

The Waiting Period

Under Section 2 of the Statute, as it at present stands, no compensation is payable with respect to an injury which does not disable the workman for the period of at least seven days. This provision has been the subject of much controversy and discussion in England and elsewhere. The Report of the English Committee, 1922, thus deals with the matter:

> "Under the provisions of the 1897 Act the workman was paid no compensation in respect of any injury which incapacitated him for less than two weeks, and was not paid from a date earlier than the beginning of the third week after the accident. The Committee of 1903 reported against the transfer to the employer of the burden of compensation for the whole or any part of the first two weeks of incapacity. During the passage of the Bill through Parliament, however, the somewhat complex plan of the 1906 Act was adopted by way of compromise. By this arrangement: (a) For incapacity lasting one week or less, no compensation is payable. (b) For incapacity lasting more than one but less than two weeks, compensation is payable, but only for the days after the first week. (c) For

> incapacity lasting two weeks or more, compensation is payable from the commencement of incapacity.
>
> "There was a strong body of opinion in evidence that by reason of these provisions there is an inducement for a workman who has to lie up for a few days in consequence of an accident to extend his period of incapacity to 14 days so as to receive compensation for the full period."

After discussion before me it was agreed by those present that I should recommend the same thing as that recommended in England, an amendment to the statute, reducing the waiting period to three days with no dating back. Compensation would thus become operative on the fourth day after the accident, and for minor injuries not disabling the workman for three days no compensation will be payable. It was suggested that this should be three working days, but this does not commend itself to me as the delay is to permit recovery from minor injuries.

The Abolition of Schedule 2

Under the statute as it now stands all industries coming under the operation of the Act are placed in two schedules. In Schedule 1 are placed the great bulk of the industries. These are divided into classes and each class is assessed an appropriate premium and is made collectively responsible for all accidents occurring in industries in that class. Industries falling under schedule 2 on the other hand are made individually liable for the compensation to be paid in respect of accidents occurring in that industry. The amount to be paid by way of compensation is precisely the same as if the industry were in Schedule 1. The industries placed in this schedule are large industries, each of which is supposed to be strong enough to carry its own burden, and each of which is vitally interested in accident prevention and in the care of the injured, because of the certainty of many accidents occurring in every year. The industries included in Schedule 2 are railways, telephone and telegraph companies, navigation companies, express companies, municipalities, public utilities commissions, etc. By far the largest of industries falling under this schedule are The Canadian National Railway Company, The Canadian Pacific Railway Company, and their ancillary express and telegraph companies, and The Bell Telephone Company. In the operation of the Act each separate industry is treated precisely as if it were a separate class under Schedule 1. On the happening of an accident present and future liability are ascertained as in ordinary cases and the money is at once deposited with the Board by the industry. At first sight the workman would not appear to be in any way concerned with the question as to whether the industry falls under one schedule or the other so long as the payment to him is adequately secured. It is admitted that there is no complaint upon this score.

The real complaint on the part of the workman is based upon a psychological phenomenon. Where many industries are grouped in one class under Schedule 1, upon an accident happening, the master realizes that because he is one in a thousand he will only have to pay a thousandth part of the compensation. He is entirely sympathetic with the injured man. He realizes that he has been assessed premiums, possibly for years, to take care of an accident if it should happen, and in the result his desire is that the injured workman shall receive all that can possibly be given him. Everything he reports, says and does is favourable to the workman, and the local doctor is also sympathetic.

In the case of the railway or other large concern, while there is undoubtedly sympathy for the injured man, there is a keen and close investigation into the nature and extent of the injury received, and there is a desire to minimize the incapacity of the workman and so to minimize the loss to the company. There is no room for suggestion that the medical men employed by the company are not admirably qualified and thoroughly honest, but everything is viewed from the standpoint of the employer and there is not quite the same sympathetic and generous attitude as in cases where the injured man alone is considered, and the payment is made from an impersonal fund to which the employer contributes an infinitesimal fraction. There is nothing before me to indicate that in cases falling under Schedule 2 the injured man fails to receive all that he is legally and justly entitled to have. I strongly suspect that in cases falling under Schedule 1, the injured man receives more than that to which he is in strictness entitled. This is inevitable, for where one is considering the claim of an injured individual against an impersonal fund the individual is rightly given the benefit of every possible doubt.

If there is anything in this situation calling for a change that which has been suggested will not bring it about. If the two great railway systems on being brought under Schedule 1 should fall into two individual classes, it being regarded as inequitable that they should pool their losses, the situation will in effect remain precisely as it is. If, on the other hand, they should be placed together in one class there is not any ground for supposing that the present efficient vigilance will not continue, and I do not believe that the slightest change would take place.

I therefore recommend no change in this respect.

Deducting Compensation from Wages

Section 17 of the Statute provides that it shall not be lawful for an employer in any way, directly or indirectly, to deduct from the wages of his workmen any part or any sum which the employer is liable to pay to the workmen as compensation. For violation of this section a penalty is provided. It is alleged that there has been violation of this section. This is strongly denied. The section as it stands is entirely adequate and the question whether it has in any particular instance been violated is not one for me as Commissioner.

A Board of Review

According to the Edmonton Report, already referred to, 97 per cent. of the cases coming before the Board are satisfactorily adjusted. About three per cent. of the cases constitute "problem cases." It is said that two-thirds of these are satisfactorily dealt with, leaving only one per cent. in which there is dissatisfaction with the result attained. Underlying the whole scheme of the statute is the idea of summary and arbitrary determination of the claimant's right and the master's liability. It was sought to abolish the prolonged and tedious proceedings in Courts in which trained lawyers were endeavouring to adjust with absolute accuracy the rights of the respective parties. This accurate adjustment was accomplished by a series of appeals. The finding of the lower Court was subject to criticism in each higher Court. In the result, in many cases it was impossible to say that the final decision was any nearer abstract right or justice than the decision of the original tribunal. It is human to err and no matter how finality is arrived at, there will always be cases in which justice is not done. Here the claimants suggest error only in an exceedingly small number of cases dealt with. The employers are content to leave matters as they are, although they intimate that they are by no means satisfied with all the decisions that have been given. They think that the principle of giving to the injured man the benefit of all doubt has been carried altogether too far.

There is almost unanimous agreement on the part of all concerned that the introduction of any right of appeal would be disastrous. I am satisfied that the workmen should be the last to complain of the existing condition.

While there is this substantial unanimity against the conferring of any right of appeal, some bodies have suggested a limited right of appeal or review. None of these suggestions appears to me to be either workable or desirable. The Board in administering the Act, recognizing its own fallibility and the possibility of error, reconsiders with the greatest care any case in which there is dissatisfaction with the result, particularly when this is expressed by the claimant. Upon reviewing complicated, difficult or important cases, outside medical assistance and advice is freely sought, and the original award is if necessary, modified in accordance with the result.

Very many letters have been received from individuals whose claims have been disallowed and who are dissatisfied with the result. These claimants demand the appointment of some appellate tribunal. I have refrained from going into the merits of these individual cases as this is outside the scope of my commission, but I have considered what is said by the claimants in each of these cases, with the result that I am satisfied that in the great majority the claimants' grievances arise from his failure to understand the principles of the statute, or from the fact that the claimant is one of those unfortunate individuals with whom all those charged with the administration of justice in any of its departments are too familiar, the man who is so convinced of the righteousness of his own cause that he cannot understand how any honest man can entertain an opinion different from his own. These unfortunate individuals will never rest satisfied with any decision, original or appellate, adverse to them, no matter how plainly they are in the wrong. Most of these dissatisfied claimants are seeking compensation for disease or for the frailties incident to old age. This will be discussed under another heading.

I do not recommend any change looking to either an appellate tribunal or to any of the various schemes for Boards of Review.

Unemployment Subsequent to an Accident

Sections 38 and 39 deal with the cases of permanent total disability and permanent partial disability. Where the disability is permanent and total, the payment of the maximum compensation continues during the life of the workman. Where the injury is permanent but partial, compensation based upon the difference between the actual earning ability in some suitable employment and the amount payable for permanent total disability, is payable during the lifetime of the workman.

Sections 40 and 41 deal with the cases of temporary total and temporary partial disability. In these cases the compensation is similar but is payable only so long as the disability lasts. On the part of the workmen amendments are sought providing for the continuance of the payments in the case of partial disability until the workman "is able to resume his former occupation or has been offered other suitable and equally remunerative employment," or, as put in another proposed amendment, "until the injured workman has been offered and is able to perform some suitable employment."

What is sought is to impose upon the industry the burden of unemployment insurance. There is, in one aspect, some fairness in the case made for the injured workman. It is difficult for him to obtain another position, but too frequently this condition is produced or accentuated by general industrial conditions and it seems inequitable to place any burden of unemployment insurance upon the industries concerned under the guise of workmen's compensation. If there is to be unemployment insurance it should be under the provisions of some general scheme in which the burden would be otherwise cared for.

Repairs to Artificial Limbs, Etc.

Under Section 49 general provision is made for the supply of medical and surgical aid and a further provision that the industry shall furnish such artificial member or members and apparatus as may be necessary as a result of the injury suffered "and have the same kept in repair for the period of one year." It is sought to have this time limit eliminated. This would place a very indefinite, long-continuing and uncertain liability upon the industry and I do not recommend it.

Industrial Diseases

Industrial disease resulting from the nature of the employment of the workman is recognized as a proper subject of compensation. The diseases which have in the past been recognized as those for which compensation should be made are found in Schedule 3 to the statute. By Section 113 (11) compensation may be also made in respect of any other disease if it is the result of an injury in respect to which the workman is entitled to compensation. Regulations have been made from time to time adding to the schedule of diseases and in some cases additions to the schedule have been made by Acts of the Legislature. The inclusion of diseases in the schedule is in my opinion too important a matter to be dealt with by mere regulation. It should be dealt with by legislation, and I would recommend the amendment of Section 1 (*h*) in this respect. The Board will no doubt from time to time recommend the enactment of legislation dealing with any industrial diseases which in the opinion of the Board ought to be included.

There was considerable discussion before me as to diseases which should be added to this schedule. It is a matter of very great importance and I venture to express the opinion that it is necessary that great care be taken to prevent the inclusion of diseases which cannot properly be regarded as industrial diseases, but which are mere misfortunes liable to overtake any individual, or which are the result merely of advancing years. The Workmen's Compensation Act must not be permitted to become health insurance, or a system of old age pensions. Some would include rheumatism and arthritis and kindred maladies which are the direct result of failing health and advancing years. Others seek to include heart disease, particularly angina pectoris, although the diseased heart is in most cases also the result of failing health and advancing years.

A very large number of the individual complaints as to the administration of the Act that have come to me have been based upon refusal of the Board to regard rheumatic afflictions and heart disease as accidents or industrial diseases resulting from the employment. Any general scheme of health insurance or old age pensions may well regard these afflictions as factors rendering the individual unable to maintain himself, but I am convinced that this burden should not be cast upon industry, and that the care of these unfortunate men should not be regarded as workmen's compensation.

A condition very similar arises in connection with hernia. A rupture may well be and often is an accident for which compensation should be made under the Act, but there are cases where the rupture is congenital in its origin and cannot be regarded either as an accident or an industrial disease. The decision in each case depends upon the result of careful medical examination. Each must be dealt with individually and cannot be made the subject of general regulation.

Attention has been particularly called to certain industrial diseases which I recommend be added to Schedule 3:

1. Infected blisters.
2. Cancer arising from the manufacture of pitch and tar.
3. Dermatitis.
4. Bursitis.

Osteopaths and Drugless Healers

Representation has been made on behalf of osteopaths and drugless healers that they should be regarded as medical practitioners within the Act. I am informed by the Board that wherever osteopathy or any form of drugless healing can, in the opinion of medical advisers of the Board, be used to advantage, the Board does not hesitate to avail itself of the assistance of these practitioners, and when so employed payment is made for the services rendered. I am prepared to recommend no extension of the Act in this respect.

Christian Scientists

A similar application for recognition as medical practitioners was made upon behalf of those authorized by the Church of Christ Scientist to act as healers. I do not think it would be desirable or practicable to grant this request.

Dentists

Where the result of an accident necessitates dental treatment I think the dentist should be regarded in precisely the same way as a medical practitioner. The Act should be amended accordingly.

Medical Member of the Board

It is strongly urged by the medical profession that upon a vacancy occurring in the Board a physician or surgeon should be appointed to fill the vacancy. The statute at present leaves the appointment entirely to the Government of the day. I think it would be exceedingly undesirable to in any way amend the statute so as to hamper the action of the Government. Personally I am convinced that the appointment of a medical man to the Board would be undesirable. The Board has in its service competent medical advisers upon whom it can rely.

Patient's Choice of Physician

It is suggested in some quarters that instead of the Board appointing its own physician it should be bound to accept and act upon the report of the physician of the patient's own choice. It is obvious that this would not be practicable. It would introduce lack of uniformity. Each physician would be inclined to be unduly sympathetic with his own patient. Where so much depends upon the medical report the fund would not be adequately protected if the Board were compelled to rely on medical men not of their own choosing.

Hospital Claims for Maintenance

Cases have arisen in which injured men have received hospital treatment, and although they have been given compensation, they fail to pay the hospital account. I would approve of legislation by which a hospital desiring to do so might send in its claim to the Board, and the Board would then retain the amount claimed out of the compensation payable to the patient until the account was adjusted or the patient authorized payment direct to the hospital. I disapprove of the suggestion that the Board or the physician employed should be made directly answerable to the hospital.

Merit Rating

Under Section 83 (4), the Board is given authority to increase the assessment in any particular case where a greater number of accidents has happened in the particular industry than would have happened if proper precautions had been taken for prevention of accidents. It is suggested that a corresponding power should be given to the Board authorizing a reduced assessment where it is shown that any particular industry has a good record and, in the opinion of the Board, this satisfactory record is the result of the taking of special precautions and care to prevent the happening of accidents. I think the Board already possesses this power under Section 96 (3). To avoid doubt I would recommend the addition of a subsection to Section 83 corresponding to Subsection 4, which deals with a demerit rating expressly authorizing the merit rating in the class of cases that I have indicated. This would involve the repeal of Section 96 (3).

Great care would have to be taken in the application of any such merit system because the whole principle of collective liability is based upon the doctrine of average. It is not enough that for a year, or even a short series of years, a particular factory escapes having any serious accident. The whole principle is that the fortunate must bear some portion of the burden of the unfortunate. This is illustrated in fire insurance. The rate is fixed having regard to experience, but no householder ever expects to receive fire insurance at a reduced premium simply because he has carried insurance for so many years and never had a fire.

Protection Against Actions

Under Section 8 (5), the right of action in circumstances there referred to is taken away in cases of employers in Schedule 1. Employers falling under Schedule 2 ask to be placed in the same position. This section substitutes a class liability for individual liability and, as under Schedule 2 the liability is individual, the change cannot be made.

Delay in Making Repairs

By Subsection 19 an obligation is placed upon the employee to give notice of his accident to the employer "as soon as practicable" after the happening of the accident. It is suggested that this section be amended by substituting for this expression the word "immediately." This suggestion does not commend itself to me. In many instances, there would be no difference in the meaning of the two expressions, but in other cases the workman might be prejudiced in that the accident itself would prevent immediate action on his part.

Illegal Employment of Minors

Where the accident is a direct result of the illegal employment of a minor I would recommend that the Board be authorized to collect the whole compensation, or such part of the compensation as the Board may determine, from the employer who has violated the law. This would not, of course, in any way prejudice the right of the claimant.

The Operations of the Board

The Province and all those concerned with the operation of this Act are to be congratulated on the efficiency of the Board as it has been from time to time constituted. It is no small thing to have administered the affairs of a fund such as this and adjusted the innumerable claims presented to the satisfaction of substantially all parties concerned.

All of which is respectfully submitted.

W. E. MIDDLETON,
Commissioner.

February 11th, 1932.

PROVINCE OF ONTARIO

Department of

Northern Development

Report of Operations under The Northern Development Act, R.S.O. 1927, and The Colonization Roads Act, R.S.O. 1927

AND AMENDMENTS

For the Year Ending 31st October

1931

PRINTED BY ORDER OF
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SESSIONAL PAPER No. 38, 1932

ONTARIO

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1932

THE RIGHT HONOURABLE SIR WILLIAM MULOCK, K.C.M.G.,
The Administrator of the Province of Ontario.

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present Report on Operations under The Northern Development Act, R.S.O. 1927, and amendments, for the fiscal year ending 31st October, 1931.

WM. FINLAYSON,
Minister.

Toronto, Ontario, February 5th, 1932.

HONOURABLE WILLIAM FINLAYSON,
Minister of Lands and Forests.

I have the honour to present herewith Report on the Operations of the Department of Northern Development for the fiscal year ending 31st of October, 1931.

C. H. FULLERTON,
Deputy Minister.

Toronto, February 5th, 1932.

CHIEF ENGINEER'S REPORT

On the construction and maintenance of roads and bridges and other operations carried on under the provisions of the Northern Development Act, R.S.O. 1927, and amendments, during the fiscal year ending 31st October, 1931.

Section 11 (B), Roads and Bridges

Road and bridge construction and maintenance was proceeded with under the Northern Development Act in the Electoral Districts of Sturgeon Falls, Sudbury, Manitoulin, Algoma, Sault Ste. Marie, Temiskaming, Cochrane South, Cochrane North, Port Arthur, Fort William, Rainy River and Kenora, and that portion of the Electoral District of Nipissing lying north of the Canadian Pacific Railway, and on certain main roads in the Electoral Districts of Muskoka. Parry Sound, Renfrew North and that part of Nipissing lying south of the C.P.R.

Rock and Boulder Cut

Total expenditure under this section was $6,248,236.61.

The ten District Engineers listed in this report, aided by Assistant Engineers, Instrument men, and Inspectors, were in charge of the work. The operations in the various Districts were supervised by periodic visits of an Inspecting Engineer from the Head Office of the Department at Toronto.

*Two tabulated reports are attached which show in detail the work accomplished during the year by direct Northern Development expenditures and by Municipal expenditures of "Agreement" money, more particularly referred to in the District Reports which follow.

*A map of Northern Ontario accompanies this report, indicating generally the territory in which expenditures have been made and outlining the Main Road System.

Construction

Road grading and erection of bridges was generally accomplished by the employment of day labour. Construction included the building of new roads with the necessary bridges to serve Districts previously isolated, and the widening, straightening and general improvement of old roads to meet modern traffic demands. Great attention was given to obtaining suitable drainage.

Paving and retread surfacing was done on some 85 miles of the more important main arteries.

Contracts were entered into for paving construction, for some of the larger bridges, and for a few stretches of grading where it was deemed to be more expedient than doing work by day labour.

Maintenance

Trunk roads throughout the area were intensively maintained to meet the demands of modern traffic by dragging, by applying dust layers, by coating

Typical Board Roofed Camp

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*See inside back cover for Appendix.

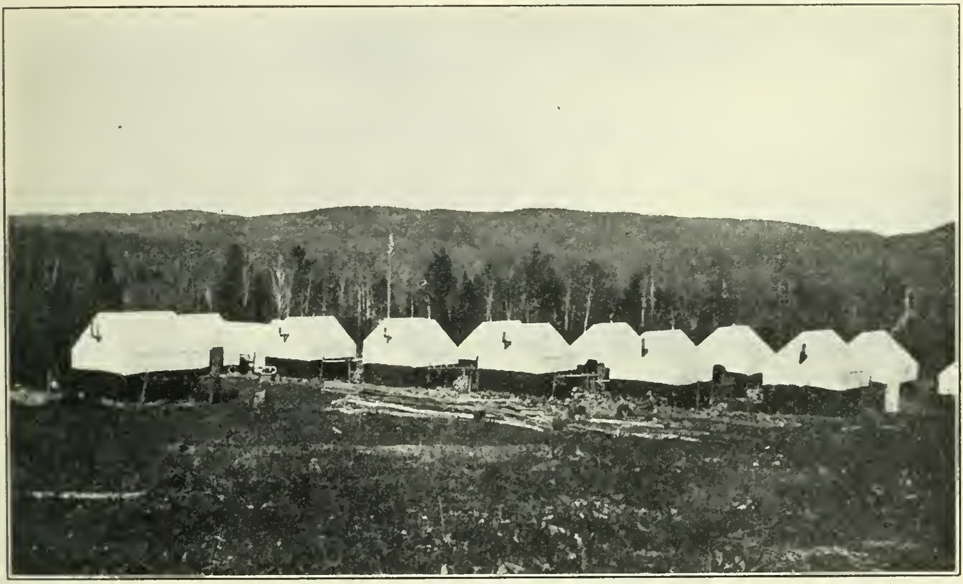
lightly with gravel where necessary, and by cleaning ditches. Dragging operations included the use of tractor drawn multiple blade drags, one man motor patrol grader units and other types of modern equipment.

Bridges throughout the area were painted, redecked and generally repaired as found necessary.

In addition to the maintenance of Trunk Roads, certain main leading roads were maintained by intermittent and more casual attention.

Trunk Roads

A Trunk Road System is rapidly being developed to serve the entire territory administered, which will eventually provide main arteries connecting all of the settled area from Pembroke on the east to Kenora and the Manitoba boundary on the west with the Southern Provincial Highway System. The total cost of construction and maintenance of Trunk Roads, except through urban centres, is borne by the Department.



Typical Canvas Covered Camp

Main Roads

Main leading roads, connecting Settlements with the Trunk arteries, are being extended with the view of giving the most remote Settlers easy access to the markets and other attractions of the larger centres.

Improvement of Right-of-Ways

In all of the Districts, the improving and beautifying of the untravelled portion of the Trunk roadways was given attention by stumping, grubbing and burning and levelling up. At suitable locations, Camp Sites were prepared close to the road on the shores of streams and lakes. Standard Highway signs were erected and also signs showing the names of lakes, streams and other interesting features. Cable guards were erected on fills, the posts being painted the standard black and white.

Railway Crossings

Continuation of the elimination of level crossings was proceeded with, several of the more dangerous spots on the Trunk Roads being done away with.

Mining Camp Roads

Surveys were made and Government aid extended to assist in construction of roads to serve mining areas.

Machinery, Equipment and Materials

Purchase of machinery and equipment from Canadian firms included power graders, tractors, air compressors, jack-hammers, metal culverts, tents, ploughs, scrapers, etc.

Small tools, crushed stone, gravel and lumber was generally purchased locally in the various districts.

Trans-Canada Highway

During the summer, certain routes were definitely designated as links of a Trans-Canada Highway in order that Federal aid towards this gigantic undertaking could be participated in.

The routes so designated are (a) from Pembroke to Mattawa to North Bay, approximately 148 miles; (b) from Schreiber to Nipigon to Port Arthur to Fort William to Dryden to Vermilion to Kenora to the Manitoba boundary, an approximate distance of 400 miles.

Between North Bay and Schreiber the route has not yet been designated, insufficient information being available, but several survey parties have been in the field since midsummer endeavouring to ascertain the most suitable route. In this work, the Department of Forestry has co-operated to the fullest extent by loaning planes and supplying contour maps prepared from aerial photographs, thus simplifying preliminary ground location which is always a slow and expensive feature in road work.

In the late summer, largely to relieve the unemployment situation, Federal-Provincial funds were arranged to permit proceeding with construction of a 30-ft. roadway on the approximate 550 miles of approved location with the result that in early September intense activity commenced.

Generally construction camps were erected at four mile intervals, each camp to accommodate 100 to 150 men. As rapidly as the camps could be completed they were manned with single men and transients from the various centres all over the Province with the result that by October 31st 8,800 men were at work. No portion of the expenditure on Trans-Canada Highway is included under section 11 (B).

Unemployment Relief

Ontario, in common with the rest of the world, was, during the past summer, so afflicted by the economic collapse that an unprecedented unemployment situation arose and to relieve this condition Federal-Provincial funds were arranged for road work. In September, this Department was instructed to proceed at once to get as many as possible of the unemployed settlers and townspeople throughout the area administered at work on road improvements. By a literal interpretation of these instructions and through intense and loyal co-operation of the field and office staff which actually worked night and day for weeks, it was made possible to have 15,000 men employed on this Relief Work by October 31st. No portion of the expenditure on unemployment relief is included under section 11 (B).

DISTRICT REPORTS

No. I—Muskoka and Parry Sound—K. Rose, Huntsville.

In this District, certain Trunk and Main Roads only come under the jurisdiction of the District Engineer.

The major construction of the year was on the Ferguson Highway on which 22.7 miles of 30-foot roadway and twelve concrete bridges were constructed. Eleven miles were surfaced with "retread." Thirty-seven miles were treated with dust layer, and 66,736 cubic yards of gravel were spread.

The road between Parry Sound and Nobel was treated with dust layer for a distance of seven miles.

A diversion on the Gravenhurst-Bala-Parry Sound road covering a distance of 1.25 miles was completed and gravelled.

Sixty-four thousand, six hundred and eleven lineal feet of standard cable guard was erected, and a total of one hundred and twenty-one thousand, three hundred and thirteen cubic yards of gravel were hauled and spread.

Maintenance included the continual patrol of three hundred and eighty-six miles of Trunk Road for the full season.

In the Fall, intensive work was commenced on many of the roads as an unemployment relief measure, but no expenditure on this account is included under this section.

No. II—Nipissing, Sturgeon Falls and Renfrew North—G. A. White, North Bay.

The outstanding work in this District was on the North Bay to Pembroke Trunk Road between Petewawa and Chalk River where eleven miles of water-bound macadam base was laid, and a distance of six and one-half miles of this covered with a "retread" top.

A large drainage operation between North Bay and Sturgeon Falls, covering a distance of nine miles was completed to improve the Meadowside flat and the road was widened to a standard thirty feet.

Four level crossings were eliminated by two diversions on the North Bay-Sudbury Trunk Road, one to the east of Sturgeon Falls for a length of two miles, and one south of the Village of Warren, one mile in length.

On the Field to Martin River Road, an additional four miles were graded and four and one-half miles which had been previously graded were gravelled.

Where possible, right-angle turns were eliminated by easement and several miles of Trunk Road widened and improved.

From Chalk River, westerly for a distance of ten miles, the Trunk Road, which had been newly graded in the past season, was gravelled.

Bridge construction included two reinforced concrete structures, one 60-foot steel and reinforced concrete bridge and three timber trusses.

Municipal agreements were entered into with the organized townships to aid them in improving their roads. In unorganized townships, direct grants were generally made at least equal to the value of the statute labour performed and, where no road organization existed, direct assistance was also given to the settlers.

Thirty miles of farm drainage were constructed on a fifty-fifty basis with the farmer property owners.

All Trunk Roads were maintained to as high a standard as possible by an organized system of patrol maintenance which included dragging, regravelling, cleaning ditches and culverts, coating with dust layers and painting and repairing of bridges and culverts.

Modern Alignment Through Broken Country

In the Fall, intensive work was commenced on the Trans-Canada Highway and other roads to relieve the unemployment situation, but no expenditure on this account is included in this section.

No. III—Sudbury and Manitoulin—E. J. Hosking, Sudbury.

Permanent surfacing in this District included the placing of a 4-inch Colass top on the Copper Cliff Road through the Township of McKim, and a 2½-inch "retread" surface for a distance of eleven and one-half miles between the Copper Cliff C.P.R. Station and the Vermilion River bridge on the Sault Ste. Marie-Sudbury Trunk Road. In preparation for this surfacing, these roads were widened and underdrained.

A major diversion on the North Bay-Sudbury Trunk Road, locally known as the Markstay Diversion, was completed. This work involved the construction of approximately four miles of standard thirty-foot roadway.

The Chapleau Road was extended south for a distance of four miles.

Trunk Roads generally throughout the District were improved by widening, straightening, ditching and the easing of curves.

Township roads were improved by direct grant expenditures, by statute labour dollar for dollar grants, and "agreements" were entered into with organized municipalities.

Trunk Roads maintenance commenced with the break up in the Spring and was intensively performed during the full season.

In the Fall, intensive work was commenced on many of the roads as an unemployment relief measure, but no expenditure on this account is included under this section.

No. IV—Algoma and Sault Ste. Marie—G. J. Lamb, Sault Ste. Marie.

On the Sault Ste. Marie-Sudbury Trunk Road major improvements were carried on in the vicinity of Laird, Bruce Mines, Thessalon, Blind River, Spragge, Cutler-Spanish and Walford-Massey. A diversion at Blind River, parallel to the C.P.R. to avoid railway crossings, was completed, and a similar diversion at Walford constructed. These diversions eliminated four level railway crossings. In the vicinity of Blind River and Iron Bridge, the road was widened and generally improved.

Standard guard cable was erected for a distance of 24,094 feet on embankments and other dangerous places.

The work on the Sault Ste. Marie-Batchawana Bay road, along the shores of Lake Superior, north of the Carp River, was extended by cutting out an additional twenty miles.

"Retread" surfacing was constructed for a distance of three and one-half miles out of Sault Ste. Marie towards Sudbury and ten and one-half miles of the same road were treated with dust layer. Four new timber bridges were erected.

Maintenance throughout the District was done on all Trunk Roads, including dragging with mechanical equipment such as tractors with multiple blade drags, trucks with spring blades, and truck-drawn multiple blade drags. Fifty-six bridges were reconstructed, repaired or painted.

In the Fall, intensive work was commenced on many of the roads as an unemployment relief measure, but no expenditure on this account is included under this section.

No. V—Temiskaming—D. J. Miller, New Liskeard.

The major construction item during the year was the grade separation work at the north entrance of the Ferguson Highway into Cobalt. A blind level crossing which existed here was replaced by a steel and concrete bridge with rock filled approaches.

Three road revisions were undertaken between Cobalt and New Liskeard involving heavy rock cuts in two instances and a reinforced concrete culvert with heavy cut and fill in the other. Other improvements such as widening and easing turns were proceeded with.

Revision of the Ferguson Highway through Chamberlain Township was continued, the last two miles of this work being under construction at the end of the fiscal year.

A large gravelling programme was undertaken during the winter of 1931 to provide relief work for settlers, made necessary by an almost total crop failure during the 1930 season.

Work was started on the construction of a road from Elk Lake to Bannockburn Township where a promising gold mining area is developing.

Nineteen new timber bridges were constructed and two were lengthened. One bridge was replaced by a culvert and fill.

Fifteen municipalities made road agreements with the Department whereby they received assistance of 50 per cent. on their Township road expenditure.

Two hundred and twenty miles of Trunk Road received full time maintenance, ninety-six miles part time, and thirty-eight miles casual maintenance during the season. Twenty-four bridges were repaired and a programme of sand blasting and painting of steel bridges in the District which had commenced the year before was completed.

In the Fall, intensive work was commenced on many of the roads as an unemployment relief measure, but no expenditure on this account is included under this section.

No. VI—North Cochrane District—C. Tackaberry, Cochrane.

In this District, the major operation of the year was gravelling. One hundred and thirteen miles of new road were gravelled for the first time and two hundred and fifty-two miles were regravelled. This work included sixteen miles on the Ferguson Highway and eighty-four miles from Cochrane to Kapuskasing. The gravelling of the Trunk Road from Kapuskasing to Opasatika was completed. Also from Reesor to Mattice, so that of the sixty-three miles between Kapuskasing and Hearst only thirteen miles remain to be gravelled, and when this is completed, there will be an all-weather road from Cochrane to Hearst, a distance of one hundred and forty-seven miles.

Many new roads were opened up to settlers and the work included, cutting stumping, grubbing, burning, ditching, grading and clay surfacing.

Assistance was given to the various townships on purely Township roads through municipal "agreements," by fifty-fifty statute labour grants and by 100 per cent. direct grants in the wholly unorganized townships.

During the season the Trunk Roads were maintained continuously.

In the Fall, intensive work was commenced on many of the roads as an unemployment relief measure, but no expenditure on this account is included under this section.

No. VII—South Cochrane District—D. Lough, Matheson.

General improvements in this District during the year included the following: (a) the completion of a twelve mile revision on the Ferguson Highway between Matheson and Monteith and the elimination of several dangerous sections by extensive rock excavation; (b) construction and reconstruction of 28.5 miles on the Porquis Junction-Timmins Trunk Road; (c) patching, seal coating, excavating rock and shouldering on six miles of the South Porcupine–Timmins penetration pavement.

Township road gravelling was extensively carried out during the winter with the settlers supplying all labour.

Unorganized townships received all possible assistance, and considerable work was done in the construction, reconstruction and maintenance of Township roads. Organized townships entered into "agreements" with the Department.

The Trunk Road was kept in excellent condition by an organized system of patrol maintenance throughout the summer months.

In the Fall, intensive work was commenced on many of the roads as an unemployment relief measure, but no expenditure on this account is included under this section.

No. VIII—Fort William and Port Arthur—A. J. Isbester, Fort William.

During the year, eleven miles on the Nipigon Highway and fifteen miles on the International Highway were surfaced with "retread" and this, together with past surfacing, gives a total of thirty-six miles of hard surfaced road in the District.

The Silver Mountain Road was extended six miles and will ultimately become part of the so-called "Gun-flint" Road, which will connect up with a series of roads in Minnesota near Eli.

A road seven miles long was constructed from the Silver Mountain Road at Silver Mountain Station into Devon Township, giving an outlet to a large settlement of some years standing which previously was isolated. This road will ultimately be extended to the International Highway near the international boundary forming a loop.

The Shebandowan Lake road which is being constructed towards Fort Frances was extended six and one-half miles during the season. This opened up most of the Shebandowan Lake area, giving access to an attractive district with a large summer population.

Eleven miles of road was constructed to the Moss Mines, south from Kashabowie, in conjunction with the mining company. This construction enabled the mining company to move heavy machinery, and the road will ultimately be a link in the road to Fort Frances.

On the Nipigon Road, the outstanding feature of the year's work was construction of a steel bridge over the Mackenzie River. This bridge is some 400 feet long and 60 feet above the level of the river. It eliminated heavy grades on each side of the old structure which was narrow and dangerous and greatly improved the alignment.

Other bridges constructed, included one thirty-foot concrete span with a twenty-four foot roadway on the International Highway near the city limits of Fort William and four standard sixty-foot timber truss bridges in other parts.

Generally the work during the season consisted of betterments to existing roads and extensions to serve new settlers. It was carried on under "agreements" with municipalities, direct expenditures by the Department and fifty-fifty grants to statute labour boards.

Maintenance of the Trunk Roads in the District, from early Spring until late Fall, resulted in the public being supplied with roads, the riding qualities of which were of very high standard.

In the Fall, intensive work was commenced on the Trans-Canada Highway and other roads to relieve the unemployment situation, but no expenditure on this account is included under this section.

No. IX—Kenora District—R. T. Lyons, Kenora.

Possibly the outstanding feature of the year's work in this District was the completion on September 1st of the grading of the road between Kenora and the Manitoba boundary.

An additional three miles south from Sioux Lookout towards Dinorwic was completed, making a total of thirteen miles of this Highway ready for traffic. Extensive grading and widening was done on the road from Sioux Lookout to Frog Rapids bridge.

The three miles of grading between Alcona and Superior Junction was gravelled, making it possible for the Alcona Settlement to operate a school van.

Improvements on the Amesdale-Richan Road, by grading and gravelling has given the settlement of Amesdale an all-weather highway connection to the Town of Dryden.

The development and extension of other main roads included work between Quibell and Vermilion Bay (9 miles); Vermilion Bay and Dyment (65 miles); Pine Grove Road (4 miles); Pine Ridge Road (5 miles); Eton-Rugby Road (4 miles); Richan Road (17 miles); Shallow Lake Loop Road (11 miles); Ignace-Osaquan Road (5 miles).

The Department co-operated with the municipal councils, statute labour commissioners and settlers in the development of township roads. "Agreements" were entered into, the work done by statute labour was subsidized and settlers were given direct aid.

Bridge on Kenora-Fort Frances Road

During the season, one hundred and ninety-four miles of road were constantly maintained by patrol gangs and thirty-three miles were patrolled casually.

In the Fall, intensive work was commenced on the Trans-Canada Highway and other roads to relieve the unemployment situation, but no expenditure on this account is included under this section.

No. X—Rainy River District—A. M. Mills, Fort Frances.

The main work of the season was on the Fort Frances-Rainy River road, and consisted of the widening of six miles to standard width, together with the improvement of the alignment at Lavallee River, McDonald's and Tribe's Rock. This eliminated six dangerous curves and three heavy grades. Other work on the road included brushing, ditching and the regravelling of fifty-five miles.

Four and one-half miles of the Fort Frances to Kenora Road were regravelled. Construction was extended for a distance of 3.3 miles north of Nestor's Falls.

On Secondary Trunk Roads, four loops were completed—the Frog Creek Road was joined with the Crozier Road on the Miscampbell boundary—the Deer lock extension road was joined to the Sifton-Dewart Road—the Bergland Road was joined to the Spohn Road—the Spohn River Road was connected with McInnis Creek Road.

Two bridges were constructed, one being over the Lavallee River on the Fort Frances-Rainy River Road, and the other over the west branch of the Little Grassy River in McCrosson Township.

The dredge worked steadily all summer and provided such drainage that the road between section 37 and 38, and 45 and 46 Wildlands can now be built to take the place of the present Spohn Road one mile west, avoiding poor alignment and heavy grades in section 37 and 45 Wildlands.

Of the 818 miles of road in this District, 285 miles were fully patrolled and 56 miles given casual maintenance. All bridges throughout the area were repaired as found necessary.

In the Fall, intensive work was commenced on many of the roads as an unemployment relief measure, but no expenditure on this account is included under this section.

Section 11 (d)—Creameries

The assistance in the development of dairying in Northern Ontario was continued by the Department by paying the salaries of buttermakers during the season at the creameries established at Cochrane, Ramore and Thunder Bay. The expenditure in this connection amounted to $1,100.

Section 11 (f)—Seed Grain

The demand for seed grain was somewhat less than 1930. A total of 10,161 bushels were purchased for resale to settlers as follows: Oats, 7,647 bushels; wheat, 552 bushels; peas, 434 bushels; barley, 1,528 bushels. Total expenditure, $10,434.28. The crops were exceptionally good in the Cochrane and Temiskaming Districts during the summer 1931, but in Parry Sound and Muskoka were not so good, due to the exceptional dry season; the oats particularly did not fill out. The seed supplied by the Department in 1931 proved very satisfactory and the settlers were more than pleased with the quality. As usual, Alaska oats were very much in demand and reports would indicate that this variety of oat is the best for Northern Ontario.

Section 11 (h)—Cattle Purchase

During 1931, eight car-loads, comprising 116 head of cattle were purchased for resale to settlers in Northern Ontario at a total cost of $12,901.72. One hundred and two (102) head were shipped to the Electoral District of North Cochrane, being distributed from the following places: Cochrane, Kapuskasing, Hearst and Mattice. Fourteen (14) head were shipped to the Electoral District of South Cochrane being distributed at Timmins.

JAS. SINTON,
Chief Engineer, Department of Northern
Development, Ontario.

Toronto, February, 1932.

SUMMARY OF EXPENDITURE FOR THE TWENTY YEARS ENDED 31st OCTOBER, 1931

THE NORTHERN DEVELOPMENT FUND

R.S.O. 1927, Chap. 36, Sec. 11

	Summary of Expenditure, 23rd May 1912 to 31st Oct., 1930	Expenditure for Year ended October 31st, 1931	Total Expenditure to 31st October, 1931
Section 11 (a) Works and Improvements	$2,100 00	....	$2,100 00
Section 11 (b) Roads and Bridges	42,775,683 44	$6,393,602 48	49,169,285 92
Section 11 (d) Farms	206,110 04	....	206,110 04
Section 11 (d) Assistance of Settlers; Fire Relief	329,099 50	....	329,099 50
Section 11 (d) Assistance of Settlers; Saw Mills	14,945 90	....	14,945 90
Section 11 (d) Assistance of Settlers; Feed Shortage	124,268 82	....	124,268 82
Section 11 (d) Creameries and Grain Elevators	80,581 29	1,100 00	81,681 29
Section 11 (f) Seed Grain	375,102 42	10,434 28	385,536 70
Section 11 (f) Agricultural Implements	46,826 22	....	46,826 22
Section 11 (h) Purchase of Cattle	92,834 93	12,901 72	105,736 65
Section 11 (j) Schools and Other Public Buildings	52,999 29	....	52,999 29
Section 11 (k) Work not otherwise provided for	4,519 27	....	4,519 27
Returned Soldiers' and Sailors' Settlement Act, 1917	1,185,568 02	....	1,185,568 02
	$42,290,639 14	$6,418,038 48	$51,708,677 62
Settlers' Loan Account	1,669,560 39	131,355 19	1,800,915 58
	$46,960,199 53	$6,549,393 67	$53,509,593 20

THE NORTHERN DEVELOPMENT FUND

R.S.O. 1927, Chap. 36, Sec. 8

Short Statement

April 16th, 1912	— To amount voted for Expenditure in N. & N.W. Ontario	$5,000,000 00
March 26th, 1918	" " " " "	5,000,000 00
May 21st, 1921	" " " " "	5,000,000 00
May 8th, 1923	" " " " "	5,000,000 00
April 14th, 1925	" " " " "	5,000,000 00
April 8th, 1926	" " " " "	5,000,000 00
April 5th, 1927	" " " " "	5,000,000 00
March 28th, 1929	" " " " "	5,000,000 00
April 3rd, 1930	" " " " "	10,000,000 00
April 2nd, 1931	" " " " "	5,000,000 00
		$55,000,000 00
April 12th, 1912 to October 31st, 1931	By Expenditures for 20 years as per detailed statement	53,509,593 20
	Balance available 1st November, 1931	$1,490,406 80

THE DEPARTMENT OF NORTHERN DEVELOPMENT

Expenditure under Northern Development Act, Year Ended 31st October, 1931

R.S.O. 1927, Chap. 36 ($6,549,393.67)

Administration, Section 9 ($145,365.87)

Salaries of Permanent Staff	$102,841 42	
Salaries of Temporary Staff	8,601 56	
	$111,442 98	
Travelling Expenses, Supplies and Contingencies	33,922 89	
		$145,365 87

Roads and Bridges, Section 11 (b) ($6,248,236.61)

District	Expenditure	Refund	Net Expenditure
District No. 1, Huntsville	$882,398 87	$175,000 00	$707,398 87
District No. 2, North Bay	743,724 41	175,000 00	568,724 41
District No. 3, Sudbury	1,175,608 61	250,000 00	925,608 61
District No. 4, Sault Ste. Marie	785,884 02	225,000 00	560,884 02
District No. 5, Temiskaming	716,935 65	175,000 00	541,935 65
District No. 6, Matheson	777,402 38	225,000 00	552,402 38
District No. 7, Cochrane	869,438 55	225,000 00	644,438 55
District No. 8, Fort William	1,105,085 52	200,000 00	905,085 52
District No. 9, Kenora	852,605 55	275,000 00	577,605 55
District No. 10, Rainy River	376,259 09	75,000 00	301,259 09
	$8,285,342 65	$2,000,000 00	$6,285,342 65
Less: Repayments transferred from Refund Account	....	37,106 04	....
	$8,285,342 65	$2,037,106 04	$6,248,236 61

District No. 1 ($707,398.87)—Engineer, K. Rose, Huntsville

Ferguson Highway	$658,173 62	
Falkenburg-Utterson-Rosseau-Parry Sound Road	38,891 33	
Gravenhurst-Bala-Parry Sound Road	33,302 67	
Bracebridge-Baysville-Dorset Road	30,357 82	
Trout Creek-Loring Road	14,854 56	
Burks Falls-Parry Sound Road	14,746 30	
Powassan-Restoule Road	7,592 33	
Huntsville-Dwight-Dorset Road	5,994 07	
Parry Sound-Nobel Road	5,816 03	
Sundridge-Magnetawan Road	3,152 14	
Emsdale-Sprucedale Road	1,979 39	
Powassan-Chisholm Road	963 14	
Equipment and Tools	21,484 84	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	45,090 63	
	$882,398 87	
Less: Contribution from Federal and Provincial Unemployment Relief Fund	175,000 00	
		$707,398 87

District No. 2 ($568,724.41)—Engineer, G. A. White, North Bay

Callander-Mattawa-Pembroke Road	$285,690 68	
North Bay-Sault Road	203,348 78	
Ferguson Highway	38,465 34	
Field-Martin River Road	38,426 45	
Warren-Rutter Road	18,749 61	
Sturgeon Falls-Field Road	10,696 86	
Hagar-St. Charles Road	6,701 81	
Verner-Field Road	4,806 47	
Field-River Valley Road	3,751 82	
Bigwood-French River Road	2,742 68	
Nicholson Road	2,541 15	
Warren-River Valley Road	2,244 51	
Pike Lake-Desaulnier Road	1,987 15	
Mattawa-Snake Creek Road	1,591 81	
Equipment and Tools	22,293 50	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	99,685 49	
	$743,724 41	
Less Contribution from the Federal and Provincial Unemployment Relief Fund	175,000 00	
		568,724 41

Roads and Bridges—Continued.

District No. 3 ($925,608.61)—Engineer, D. T. Hosking, Sudbury

North Bay-Sault Road	$461,248 71	
Espanola-Little Current Road	83,789 00	
Sudbury-Chelmsford-Levack Road	60,697 42	
Little Current-Gore Bay Road	43,946 86	
Chapleau-Devon Road	30,360 78	
Sudbury-Milnet Road	29,346 89	
Gore Bay-Meldrum Bay Road	26,261 02	
Chelmsford-Blezard-Capreol Road	21,011 47	
Little Current-Manitowaning Road	18,985 45	
Sudbury-Garson-Massey Bay Road	16,498 07	
Sandfield-Mindemoya Road	13,055 79	
Providence Bay-Manitowaning Road	10,826 36	
Gore Bay-Providence Bay Road	9,905 33	
Shining Tree Road	5,272 84	
Bidwell-Green Bay Road	4,877 82	
West Bay-Mindemoya Road	4,132 79	
Coppercliff-Creighton Road	3,500 32	
Long Bay-Perivale-Spring Bay Road	3,149 48	
Sudbury-Burwash Road	2,299 85	
Sudbury-Kelly Lake Road	2,104 41	
Gore Bay-Poplar Road	1,903 25	
Cartier-Levack Road	1,350 99	
Hanmer-Massey Bay Road	1,337 15	
Equipment and Tools	49,142 65	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	270,603 91	
	$1,175,608 61	
Less Contribution from the Federal and Provincial Unemployment Relief Fund	250,000 00	
		$925,608 61

District No. 4 ($560,884.02)—Engineer G. J. Lamb, Sault Ste. Marie

North Bay-Sault Road	$296,761 53	
Sault-Batchewana Road	94,457 28	
Second Line-Gros Cap Road	31,221 84	
Sault-Island Lake-Searchmont Road	30,396 36	
Lee Valley Road	24,374 67	
St. Joseph and Pine Island Roads	15,022 53	
Goulais Bay and People's Road	14,184 88	
White River and Tootney Lake Road	12,188 04	
Blind River-Iron Bridge-Patton Road	11,160 80	
Hornepayne Road	5,865 62	
Searchmont-Wabas Road	5,752 55	
Bruce Mines-Dunn Valley Road	4,640 48	
River Road	3,630 65	
Patton-Parkinson Road	3,238 76	
Wharncliffe Road	3,045 15	
Iron Bridge-Parkinson Road	2,040 34	
Webbwood Main Road	1,642 70	
Shaw Road	1,264 78	
Lake Matinonda Road	1,246 65	
Equipment and Tools	40,301 71	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	183,446 70	
	$785,884 02	
Less Contribution from the Federal and Provincial Unemployment Relief Fund	225,000 00	
		560,884 02

District No. 5 ($541,935.65)—Engineer, D. J. Miller, New Liskeard

Ferguson Highway	$312,079 58	
Krugerdorf Road	45,702 18	
New Liskeard-Elk Lake Road	29,158 81	
Elk Lake-Matachewan Road	10,801 29	
North Road	8,155 62	

Roads and Bridges—Continued.

District No. 5—Continued.

Casey-Brethour Road	$7,018 80	
Elk Lake-Charlton Road	5,304 83	
Gowganda Road	4,866 40	
Milberta Road	4,552 52	
Uno Park Road	4,445 64	
Greenwood's Bridge Road	4,375 19	
New Liskeard-North Temiskaming Road	3,706 17	
Dawson's Point Road	3,443 92	
South Lorrain Road	3,435 08	
Bartlett's Point Road	2,250 69	
McIntyre Road	2,117 30	
Swanson's Bridge	2,094 66	
Maybrook Road	1,906 76	
Boston Creek Road	1,856 88	
Savala Bridge	1,800 78	
Overton's Bridge	1,576 04	
Haileybury West Road	1,496 94	
Earlton-Hilliardton Road	1,026 99	
Equipment and Tools	36,209 78	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	217,552 80	
	$716,935 65	
Less Contribution from the Federal and Provincial Unemployment Relief Fund	175,000 00	
		$541,935 65

District No. 6 ($552,402.38)—Engineer, D. Lough, Matheson

Porquis Junction-Timmins Road	$223,998 75	
Ferguson Highway	135,840 01	
Matheson-Monteith Road	85,640 77	
Teck-Larder Lake Road	25,808 38	
Hoyle-Shillington Road	13,044 73	
Porquis Junction-Iroquois Falls Road	11,831 88	
Monteith-Iroquois Falls Road	7,002 45	
Munroe Road	6,874 05	
Iroquois Falls-Nellie Lake Road	6,687 74	
Swastika-Kirkland Lake Road	6,669 34	
Equipment and Tools	44,999 71	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	209,004 57	
	$777,402 38	
Less Contribution from the Federal and Provincial Unemployment Relief Fund	225,000 00	
		552,402 38

District No. 7 ($644,438.55)—Engineer C. Tackaberry, Cochrane

Cochrane-Hearst Road	$259,583 58	
Cochrane-Norembega Road	36,205 37	
Hearst-Cappelle Road	24,472 76	
Ferguson Highway	19,358 26	
Gardner Road	16,059 39	
Clute Road	6,972 28	
Lake Road	5,924 05	
Genier Road	5,348 37	
Frederickhouse Road	5,107 12	
Remi Lake Road	2,599 63	
Equipment and Tools	55,200 06	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	432,607 68	
	$869,438 55	
Less Contribution from the Federal and Provincial Unemployment Relief Fund	225,000 00	
		644,438 55

Roads and Bridges—Continued.

District No. 8 ($905,085.52)—Engineer, A. J. Isbester, Fort William

International Highway	$372,039 69	
Nipigon Highway	308,041 87	
Schreiber-Rossport Road	21,840 42	
Shebandowan-Kashabowie Road	21,551 50	
Dawson Road	21,032 16	
Arthur Street Road	18,009 92	
Silver Mountain-Gunflint Road	14,972 93	
Forbes Main Roads	13,576 32	
Oliver Road	6,980 25	
Dog River Road	6,465 83	
Finmark-Goldie Road	5,521 52	
Cloud Lake Road	5,399 15	
Winnipeg Highway	5,088 79	
Kakabeka-Hymers Road	4,660 16	
Moss Mine Road	4,502 06	
Dona-Finmark Road	4,388 85	
Current River-Kam Road	4,309 37	
Pass Lake Road	3,555 45	
Devon Road	3,550 95	
Dog Lake Road	3,201 77	
Pearson Road	2,972 47	
Scoble Road	2,605 34	
Onion Lake Road	2,335 16	
Copenhagen Road	2,155 65	
Marks Road	1,617 09	
Equipment and Tools	60,011 16	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	184,699 69	
	$1,105,085 52	
Less Contribution from the Federal and Provincial Unemployment Relief Fund	200,000 00	905,085 52

District No. 9 ($577,605.55)—Engineer, R. T. Lyons, Kenora

Kenora-Manitoba Boundary Road	$473,235 35	
Kenora-Fort Frances Road	85,013 50	
Sioux Lookout-Dinorwic Road	47,927 50	
Trans-Canada Highway Survey	19,989 36	
Darlington Bay Bridge	12,863 28	
Dryden-Richan Road	12,234 18	
Kenora-Redditt Road	8,905 43	
Ignace-Osaquin Road	6,624 34	
Alcona-Superior Junction Road	4,762 79	
Lac Lu Road	3,763 43	
Pellatt Main Road	3,248 90	
Melick Road	1,653 28	
Quibell Road	1,609 80	
Equipment and Tools	81,395 18	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	89,379 23	
	$852,605 55	
Less Contribution from the Federal and Provincial Unemployment Relief Fund	275,000 00	577,605 55

District No. 10 ($301,259.09)—Engineer, A. M. Mills, Fort Frances

Fort Frances-Rainy River Road	$76,831 24
Kenora-Fort Frances Road	31,720 17
Spohn-Bergland Road	21,762 44
Sleeman-Minahico Road	15,805 66
Spohn Road	11,085 36
Arbor Vitae Road	8,629 60
Devlin Road	7,619 16
Mine Centre Road	7,312 18

Roads and Bridges—Continued.

District No. 10—Continued.

Clearwater Road		$7,168 10	
Barwick-Black Hawk Road		6,687 92	
Frog Creek Road		6,428 32	
Deerlock Road Extension		6,127 99	
Stratton-Sifton Road		4,940 27	
Emo-Off Lake Road		3,771 85	
Emo-Barnhart Road		3,163 42	
River Road		2,908 35	
LaVallee Road		2,869 17	
Crozier Road		1,982 74	
Equipment and Tools		22,406 57	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure		127,038 58	
		$376,259 09	
Less Contribution from the Federal and Provincial Unemployment Relief Fund		75,000 00	
			301,259 09
Less Repayments—Transferred from Refund Account:			
Board of Railway Commissioners, Proportion of Cost:			
Bissett Creek Crossing		$25,793 90	
Diversion, Ferguson Highway, Canadian National Railways subway		2,359 22	
Elimination of Dawson Road Level Crossing		1,392 34	
		$29,545 46	
Canadian Pacific Railway, Proportion of Cost:			
Diversion at Bissett Creek	$10,965 38		
Less Contra Account	8,254 68		
		$2,710 70	
Canadian National Railways, Proportion of Cost:			
Elimination of Dawson Road Level Crossing		$1,044 26	
Refund of Gasoline Tax		2,518 69	
Sale of Building, Material, Supplies, etc		982 90	
Refund of Freight		291 78	
Sale of White Prints		12 25	
			37,106 04
Total Expenditure on Roads and Bridges (including Administration)			$6,393,602 48
Creameries, Section 11 (D) ($1,100.00)			
Cochrane, Ramore and Thunder Bay, Wages of Buttermakers			1,100 00
Seed Grain, Section 11 (F) ($10,434.28)			
Cost of Seed		$8,990 02	
Freight, Services and Disbursements		1,432 86	
Wages of Men		11 40	
			10,434 28
Purchase of Cattle, Section 11 (H) ($12,901.72)			
Cost of Cattle		$10,263 00	
Freight, Feed, Services and Disbursements		2,638 72	
			12,901 72
Settlers' Loan Account ($131,355.19)			
F. Dane, Commissioner, Salary		$4,166 62	
Salaries of Permanent Staff		4,750 00	
		$8,916 62	
Inspections and Disbursements		3,603 57	
		$12,520 19	
Net Amount of Loans Issued		118,835 00	
			131,355 19
Total			$6,549,393 67

DEPARTMENT OF NORTHERN DEVELOPMENT

STATEMENT OF REVENUE FOR THE YEAR ENDED THE 31ST OCTOBER, 1931

	Capital	Ordinary	Total
Section 11 (b) Roads			
*Repayments of Proportion of Cost of Railway Crossings and Diversions, sale of Building, Equipment, Material, Supplies, Rentals, Refunds, etc.	$35,576 10	$1,529 94	$37,106 04
*Transferred as Expenditure Refund on Roads and Bridges Expenditure.			
Section 11 (d) Assistance of Settlers: Feed Shortage			
Repayment of Principal	125 10		
Interest		46 91	172 01
Section 11 (f) Seed Grain			
Repayment of Principal	8,774 79		
Interest		1,752 52	10,527 31
Section 11 (f) Agricultural Implements			
Repayments of Principal	577 71		
Interest		200 27	777 98
Section 11 (h) Purchase of Cattle			
Repayment of Principal	8,846 18		
Interest		452 99	9,299 17
General Account			
Bank Interest		4,666 80	4,666 80
Settlers' Loan Account			
Repayment of Principal	58,304 81		
Interest, Exchange, etc.		22,733 45	81,038 26
Branch—Colonization Roads			
*Casual Refunds	330 50	220 34	550 84
Totals	$112,535 19	$31,603 22	$144,138 41

*Transferred as Expenditure Refund.

DEPARTMENT OF NORTHERN DEVELOPMENT

ASSETS, 31ST OCTOBER, 1931

	Principal	Accrued Interest	Total
Notes Outstanding			
Section 11 d) Feed Shortage	$51,081 59	$26,402 83	$77,484 42
Section 11 (f) Seed Grain	91,075 11	41,370 24	132,445 35
Section 11 (f) Agricultural Implements	17,163 18	7,641 57	24,804 75
Section 11 (h) Cattle Purchase	16,139 49	881 24	17,020 73
	$175,459 37	$76,295 88	$251,755 25
Settlers' Loan Account			
Loans Outstanding	$634,156 70	$59,250 78	$693,407 48
Total	$809,616 07	$135,546 66	$945,162 73

CONTINGENT ASSETS

Roads: Land, Buildings, Plant Equipment, Motors, Tractors, etc. $535,021 83

W. Ll. LAWER,
Accountant.

Toronto, October 31st, 1931.

January 26th, 1932.

THE HONOURABLE WM. FINLAYSON,
Minister of Lands and Forests,
Parliament Buildings,
Toronto.

DEAR SIR:

It affords me pleasure to herewith enclose Statement of Operations of this Department for the year ending October 31st, 1931.

The season just passed, from all accounts was favourable, as reports indicate good crops, but, on the other hand, it has been difficult to find a market for what the Settlers have for sale; however, taking everything into consideration, the repayments on account of Principal and Interest are encouraging.

Yours truly,
F. DANE,
Commissioner.

STATEMENT OF LOANS ISSUED

TO OCTOBER 31ST, 1931

Total Number of Applications Received:		
To October 31st, 1930	7,687	
Year ending October 31st, 1931	740	
		8,427
Loans Issued: LOANS		
To October 31st, 1930	4,453	
Year ending October 31st, 1931 (new)	381	
		4,834
Amount granted		$1,645,040 00
Average Loan per settler		340 30
Amount applied for		3,317,162 00
Number of Loans issued		4,834
Number of Loans outstanding		2,534
Number of Loans paid in full		2,300

STATEMENT OF LOANS TO CREAMERIES AND OTHER LIKE ASSOCIATIONS

INCLUDED IN THE ABOVE STATEMENT

TO OCTOBER 31ST, 1931

Applications and Loans	Amount Granted	Amount Owing
The Sudbury Dairy, Ltd	$24,000 00	Paid
The Kenora Dairy Co-Operative Association, Ltd	13,000 00	$13,000 00
Producers Co-Operative Creamery Co., Ltd., Lavallee, Ont	3,500 00	1,400 00
The Matheson Co-Operative Dairy Co., Ltd	7,050 00	4,443 63
The Cochrane Co-Operative Dairy Co., Ltd	7,830 00	5,893 48
Northern Co-Operative Co., Ltd., Rydal Bank, Ont	5,000 00	3,000 00
The Thunder Bay Co-Operative Dairy, Ltd	18,600 00	18,600 00
Totals	$78,980 00	$46,337 11

NOTE. The standing of the Kenora Dairy Co-Operative Association, which went into liquidation in 1922, and all property now under jurisdiction of the Department of Northern Development, as outlined in our report of 1924, is as follows:

Principal	$13,000 00
Accrued Interest	1,405 25
Total	$14,405 25

PAYMENTS ON ACCOUNT OF INTEREST

	Accrued Interest due	Interest Received	Per Cent.
Loans to Settlers	$437,570 21	$381,606 94	87.2
Loans to Creameries	19,857 78	16,570 27	83.4
Total	$457,427 99	$398,177 21	87.0

ON ACCOUNT OF PRINCIPAL

	Payments on Principal due	Principal Received	Per Cent.
Loans to Settlers	$1,179,784 00	$978,240 41	82.9
Loans to Creameries	56,125 22	32,642 89	58.1
Total	$1,235,909 22	$1,010,883 30	81.5

TOTAL

	Payments due	Payments Received	Per Cent.
Loans to Settlers	$1,617,354 21	$1,359,847 35	84.0
Loans to Creameries	75,983 00	49,213 16	64.7
Total	$1,693,337 21	$1,409,060 51	83.2

Charges	$457,427 99	$1,645,040 00
Payments	398,177 21	1,010,883 30
Outstanding	$59,250 78	$634,156 70
Settlers	$55,963 27	$601,513 81
Creameries	3,287 51	32,642 89

STATEMENT OF LOANS ISSUED AND OUTSTANDING

District	Issued		Outstanding		
	No. of Loans	Issued	No. of Loans	Unpaid Principal	Unpaid Interest
Algoma	225	$88,010 00	172	$46,759 01	$2,642 16
Manitoulin	14	5,750 00	7	1,064 90	15 00
Nipissing	286	99,295 00	191	47,281 14	3,770 35
Sudbury	335	150,245 00	197	57,350 67	2,752 18
Kenora	485	164,590 00	253	62,772 72	5,671 59
Rainy River	351	118,055 00	179	39,769 15	2,913 46
Temiskaming	2,027	652,630 00	952	222,583 33	23,203 94
Thunder Bay	1,081	366,465 00	583	156,575 78	18,282 10
Totals	4,834	$1,645,040 00	2,534	$634,156 70	$59,250 78

To 1930	$1,526,205 00
To 1931	118,835 00
	$1,645,040 00

STATEMENT OF RECEIPTS, NOVEMBER 1st TO OCTOBER 31st, 1931

RECEIPTS—ORDINARY

Date	Interest on Loans	Principal	Exchange
November, 1930	$1,753 95	$4,533 04	$0 17
December, 1930	1,742 02	2,946 53	....
January, 1931	1,593 45	2,204 33	03
February, 1931	920 88	2,974 93	05
March, 1931	2,228 81	3,498 27	....
April, 1931	1,866 58	3,875 61	....
May, 1931	1,791 20	4,294 06	....
June, 1931	2,115 33	4,844 59	....
July, 1931	2,115 00	4,288 85	....
August, 1931	2,552 70	17,029 72	25
September, 1931	1,543 80	3,455 16	....
October, 1931	2,509 19	4,359 72	04
Totals	$22,732 91	$58,304 81	$0 54

STATEMENT OF EXPENDITURE, YEAR ENDING OCTOBER 31st, 1931

Salaries		
Dane, F., Commissioner	$4,166 62	
MacLean, A. E., Senior Clerk	2,500 00	
Jack, F. M., Stenographer	1,200 00	
Wilson, F. L., Stenographer	1,050 00	
		$8,916 62
Office Expense		
Stationery, etc	$1,853 59	
Typewriter	85 50	
Postage	5 00	
Telegrams	6 86	
Legal Expense	4 07	
		$1,955 02
Outside Expense		
Arthurs, Edward	$38 00	
Barnes, E. H	18 92	
Barr, J. C	122 53	
Bastien, J. A	160 75	
Cragg, W. V	63 50	
Grigg, Albert	149 18	
Hough, Wm	82 25	
Hughes, Thos	101 30	
Millichamp, T A	5 00	
Owens, H. B	517 40	
Smith, Dalton	85 21	
Torrie, L	156 00	
Van Horn, L. E	78 41	
Wigle, R. G	67 00	
Wilson, S. H	3 10	
		$1,648 55
		$12,520 19

SUMMARY OF EXPENSES TO OCTOBER 31st, 1931

	To October 31st, 1930	Year ending October 31st, 1931	Total
Salaries	$125,933 16	$8,916 62	$134,849 78
Travelling expenses	1,259 85	....	1,259 85
Office expenses	11,932 16	1,955 02	13,887 18
Outside expenses	4,176 30	1,648 55	5,824 85
	$143,301 47	$12,520 19	$155,821 66
Refund on overpayments	53 92	....	53 92
Totals	$143,355 39	$12,520 19	$155,875 58

ENGINEER'S REPORT

On the Operations of the Colonization Roads Branch during the Fiscal Year Ending October 31st, 1931.

Direct Grants and By-law expenditures under the Colonization Roads Act were made in the Northern Townships of the Counties of Addington, Frontenac, Hastings, Lanark, Leeds, Ontario, Renfrew, Simcoe, Victoria and Haliburton and Townships in the Districts of Muskoka, Parry Sound and Nipissing.

Nine Colonization Roads Inspectors, under the supervision of the Colonization Roads Engineer, laid out and inspected the work.

Grants to Municipalities for Colonization Roads

One hundred and five organized municipalities, twenty-three townships organized for statute labour and nine unorganized townships were assisted by one hundred per cent. Departmental grants to aid in constructing and maintaining their roads.

Direct grant expenditures gave employment to 9,198 men, 2,802 teams and 131 trucks and a summary of the work done shows: cutting and burning 32.1 miles; sidebrushing 148.1 miles; stumping and grubbing 23.7 miles; grading new road 40.0 miles; regrading existing road 209.0 miles; ditching 42.5 miles; surfacing—with gravel, new road 72.3 miles, old road 179 miles—with clay 7.7 miles—with crushed stone 15.8 miles; dragging 7,943 miles; guard-rail erected 998 lineal feet; culverts installed—wood 284, stone and concrete 53, metal 108; bridges erected and repaired 23; excavation—earth 129,667 cubic yards, rock 23,587 cubic yards.

Municipal By-laws for the Improvement of Roads

The Department encouraged municipalities expending money on road work to pass Colonization Roads by-laws in order that they might participate in the benefits authorized by the Act, with the result that one hundred and eleven municipalities passed the necessary by-laws and were reimbursed to the extent of fifty per cent. of their total authorized expenditure under the by-law on road work.

A summary of the work accomplished under by-law indicates that employment was given to 16,957 men, 7,680 teams and 23 trucks; the work included cutting and burning new road 67.7 miles; sidebrushing existing road 381 miles; stumping and grubbing 23.4 miles; grading new road 30.3 miles; regrading old old road 1,230.5 miles; ditching 79.1 miles; surfacing—with gravel, new road 48.5 miles, old road 817.6 miles—with clay 14.4 miles—with crushed rock 19 miles; dragging 13,062 miles; guard-rail erected 4,565 lineal feet; culverts installed—wood 731, stone and concrete 236, metal 170; bridges erected and repaired 100; excavation—earth 78,337 cubic yards, rock 21,877 cubic yards.

Municipal By-laws for the Appointment of a Road Overseer.

Road overseers were appointed by fifty-three municipalities under by-law and the Government reimbursed the individual municipalities to the extent of 50 per cent. of the total salary paid to the overseer under by-law up to a maximum contribution of $400.

Municipal By-laws for the Purchase of Machinery and Material

Fifteen municipalities purchased under by-law road-making machinery, appliances and materials including power and horse graders, drags, shovels, lumber, culverts, cement, etc. During the last session of the Legislature the Colonization Roads Act was amended so that the Department could reimburse a municipality to the extent of 50 per cent. of the approved expenditure under such by-laws. This increased assistance has been greatly appreciated by the municipalities with the result that a considerably better and more efficient type of machinery has been purchased.

Equipment

In addition to the above financial assistance towards the construction of roads and the purchase of road-making machinery, the Department directly contributed to the improvement of roads by supplying dump trucks, portable air compressors equipped with jack-hammers and two light power maintenance graders. The expenditure on this heavier equipment has been amply justified by steadily increasing the quality and quantity of work performed.

Expenditures

Construction, maintenance (including machinery and equipment)	$241,088 36
Colonization Roads By-laws	228,092 48
Inspection	18,146 41
Storage and insurance	245 16
Engineering and surveying	105 54
Salaries, etc., not provided for	17 35
	$487,695 30

Roy G. Sneath,
Engineer, Colonization Roads.

Toronto, February, 1932.

Elector
ALGOMA
COCHRA
COCHRA
FORT W
KENORA
MANITO
MUSKOK
NIPISSIN
PARRY S
PORT A
RAINY
RENFRE
SAULT S
STURGE
SUDBUR
TEMISK
To

APPENDIX A.

DEPARTMENT OF NORTHERN DEVELOPMENT

ANNUAL REPORT, 1930-3931

Electoral District	Cutting and Burning New Road Miles	Side Brushing Existing Road Miles	Stumping and Grubbing Miles	Grading		Ditching Cu. Yds.	Gravelling				Clay Surfacing		Crushed Rock			Drag-ging, Miles	Culverts				Bridges											Excavation		Miscellaneous
							New		Repairs												New			Replaced			Repaired			Painted				
				New Miles	Repairs Miles		Length, Miles	Cubic Yards	Length, Miles	Cubic Yards	Length Miles	Cubic Yards	Number Yards Crushed	Number Yards Hauled	Length Road Covered, Miles		Wood	Stone	Concrete	Metal	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Earth Cubic Yards	Rock Cubic Yards	
ALGOMA	38 9	191 5	61 2	44 3	446 6	95,964	148 1	99,062	83 7	30,218	33 7	11,586	....	5,106	4 6	48,528	177	....	125	254	....	....	....	19	....	....	7	....	....	21	....	296,063	18,642	Road widened 8.7 miles to 30 ft.; grass and weeds cut 150 miles; trees planted, 34,000; surveys, 60 miles; drainage, 6 miles; culverts cleaned, 47; guard rail erected, 11,226 ft.; signs erected, 600; 2 cedar and 1 masonry retaining wall built; 143 advertising signs removed.
COCHRANE NORTH	95 0	117 1	116 3	45 4	32 0	507,970	112 9	132,351	251 6	50,517	74 1	109,740	....	85	....	71,073	385	....	....	182	15	....	....	....	....	....	9	....	....	....	....	118,233	1,053	New road 45 miles; road widened 35 miles; weeds cut, 110 miles; drainage, 66 miles; guard rail, 4,320 ft.; surveys, 115 miles; signs erected, 330; lumber purchased, 127 thousand feet; equipment overhauled; 12 curves built.
COCHRANE SOUTH	43 5	120 8	62 2	26 8	942 0	166,936	159 7	163,172	355 2	117,945	102 6	43,700	921	10,440	16.8	63,288	83	....	....	....	1	....	....	....	....	....	....	....	....	....	....	91,250	9,624	New road, 26.8 miles; pavement repaired, 6 miles; weeds cut, 23 miles; ditches cleaned, 3.7 miles; culverts cleaned, 171; guard rail, 22,549 ft.; surveys, 106 miles; rip-rap, 4,700 yds.; signs erected, 166; 10 tractors and 8 graders overhauled.
FORT WILLIAM	157 9	866 9	532 8	49 1	109 2	47,181	72 1	121,272	6 3	19,347	7.1	12,955	34,540	120	16 5	14,793	155	5	51	185	4	....	2	4	....	....	7	....	....	....	....	7,094	20,049	Retread, 15.2 miles; guard rail, 5,743 ft.; signs erected, 166; all machinery overhauled; 13 camps built; cut and fill, 82,955 cu. yds.
KENORA	56 0	420 0	46 0	54 0	317 0	95,120	86 0	70,548	260 0	54,152	18.0	28,349	....	....	....	16,840	212	....	....	60	7	....	....	1	....	....	16	....	....	13	1	321,136	84,850	New road constructed, 54 miles; tote road, 30 miles; culverts cleaned, 306; clay surface, 18 miles; signs erected, 134; surveys, 264 miles; creeks cleaned, 13,100 cu. yds.; lumber purchased, 53 thousand feet; road widened, 31 miles; machines all overhauled.
MANITOULIN	16 5	209 7	13 2	51 0	153 2	94,878	132 9	154,115	385 8	....	62 2	40,283	....	6,595	5.83	12,121	185	36	....	102	....	....	....	....	....	3	4	2	....	....	1	111,016	22,433	New road, 2 5 miles; road widened, 8 miles; drainage, 84 miles; culverts cleaned, 45; guard rail, 4,759 ft.; signs erected, 147; ferry dock extended.
MUSKOKA	5 4	144 1	2 9	4 7	15 4	75,753	10.7	18,797	60 9	20,479	.5	658	....	42	01	9,618	32	....	....	2,006	....	1	....	....	....	....	....	....	....	....	....	69,900	12,748	Retread, 9 miles; new road constructed, 4.7 miles; pavement repaired required 899 cu. yds. stone and 22,632 gals. oil binding compound; curves, 24; culverts cleaned, 1,232; signs erected, 58; 13 power machines overhauled; warehouse repaired.
NIPISSING	..	27 0	5	..	.	611	1.7	1,416	.. ...	7,066	1.5	2,245	....	....	....	18,669	12	....	....	3	...	....	....	....	....	....	....	....	....	....	....	....	279	Curves banked, 7; road widened, 8.5 miles; ditches, 9 miles; weeds cut, 27 miles; guard rail, 186 ft.; lake and river signs, 37; culverts cleaned, 120; bridges protected from ice, 10; 3 tractors overhauled.
PARRY SOUND	15.5	241 9	17 0	1 2	.	5,205	54 3	47,115	139.9	34,925	4 7	3,656	....	....	....	27,558	17	7	....	210	....	....	12	....	....	....	3	....	....	....	....	445,557	28,471	Retread, 11 miles; new road constructed, 24 miles; oil on 44 miles; drainage, 23 miles; culverts cleaned, 1,288; guard rail, 58,690 ft.; surveys, 85 miles; signs erected, 135; equipment overhauled and painted.
PORT ARTHUR	21.0	161 3	24 4	87 3	6 7	52,693	72.8	61,218	35.8	18,572	33 0	19,868	18,320	....	11 0	17,323	109	8	4	149	3	1	....	1	....	....	3	....	....	....	....	2,189	12,848	Retread, 11 2 miles; pavement repaired, 11 miles; guard rail, 17,172 ft.; camp buildings erected, 22; cut and fill, 92,164 cu. yds.
RAINY RIVER	32 7	407 3	30 0	24 8	15 4	168,001	52.8	44,021	110 2	56,135	1 7	2,390	....	....	....	24,471	110	....	....	63	8	....	....	....	....	....	30	1	....	26	....	18,471	5,315	New road constructed, 25 miles; grass and weeds cut, 15 miles; road widened, 10 miles; culverts cleaned, 97; guard rail, 3,553 ft.; signs erected, 83; surveys, 63 miles; 4 power machines overhauled; lumber cut, 40 thousand ft.; purchased 177 thousand ft.
RENFREW NORTH.	3 0	48 0	. .	..	1	1,072	6 8	16,662	4 0	3,824	5.6	6,199	....	....	....	11,714	15	1	....	4	....	....	3	....	....	....	....	....	....	....	....	....	....	Retread, 6.5 miles; waterbound macadam, 11 miles; weeds cut, 48 miles; guard rail, 6,809 ft.; lake or river signs, 36; curves banked, 12.
SAULT STE. MARIE.	30 7	85 0	26 2	8 3	75 5	33,109	47 5	37,499	27 6	6,700	16 2	1,966	....	169 5	4	23,317	37	....	119	54	4	....	....	....	....	....	6	....	....	....	....	172,603	3,182	Seventeen miles oil and gravel road repaired; 11 miles oiled; drainage, 8 miles; guard rail, 15,458 ft.; 5 ft. shoulders on 25 miles; surveys, 45 miles; retread, 3.5 miles; 34 signs erected; 340 telephone poles removed.
STURGEON FALLS..	68 1	78 9	20 5	28 4	51 5	188,010	71 8	51,203	418 7	51,147	26 9	30,872	....	....	....	22,437	198	17	....	64	2	....	....	....	....	....	21	....	....	7	....	72,290	22,991	New road, 28.4 miles; road widened, 24.5 miles; ditching, 63 miles; guard rail, 5,555 ft.; surveys, 13.4 miles; signs erected, 71; grass and weeds cut, 79 miles; 2 machines overhauled.
SUDBURY.	25 8	174 8	25 5	38 7	79 5	230,169	37 4	52,499	85 7	64,881	26 3	23,330	42,451	50,809	28 12	11,204	217	5	5	84	....	....	....	6	1	3	8	3	7	....	....	75,675	70,449	Retread, 11.5 miles; Colas, 2.6 miles; road widened, 82 miles; curves banked, 18; drainage, 69 miles; guard rail, 5,550 ft.; signs erected, 14; machines overhauled, 15.
TEMISKAMING ..	31 5	134 6	16.3	16 0	43 7	79,283	149 6	69,724	144 3	82,474	24 3	21,391	....	8,418	12 6	17,792	64	....	2	153	12	1	....	11	....	....	20	4	....	....	14	122,380	10,901	Concrete pavement, .3 miles; new road, 15.4 miles; surveys, 13 miles; oil, 7 miles; ditches cleaned, 53 miles; lumber, 1,137 thousand ft.; machines overhauled; guard rail, 24,314 ft. signs erected, 225; road widened, 13.5 miles.
TOTALS . ..	641 5	3,428 9	995 0	480 0	2,287 8	1,841,955	1,217 1	1,140,674	2,369 7	618,382	438 4	359,188	96,232	81,784 5	401 5	410,746	2,008	79	306	3,573	56	3	17	42	1	6	134	10	7	67	16	1,923,857	323,835	

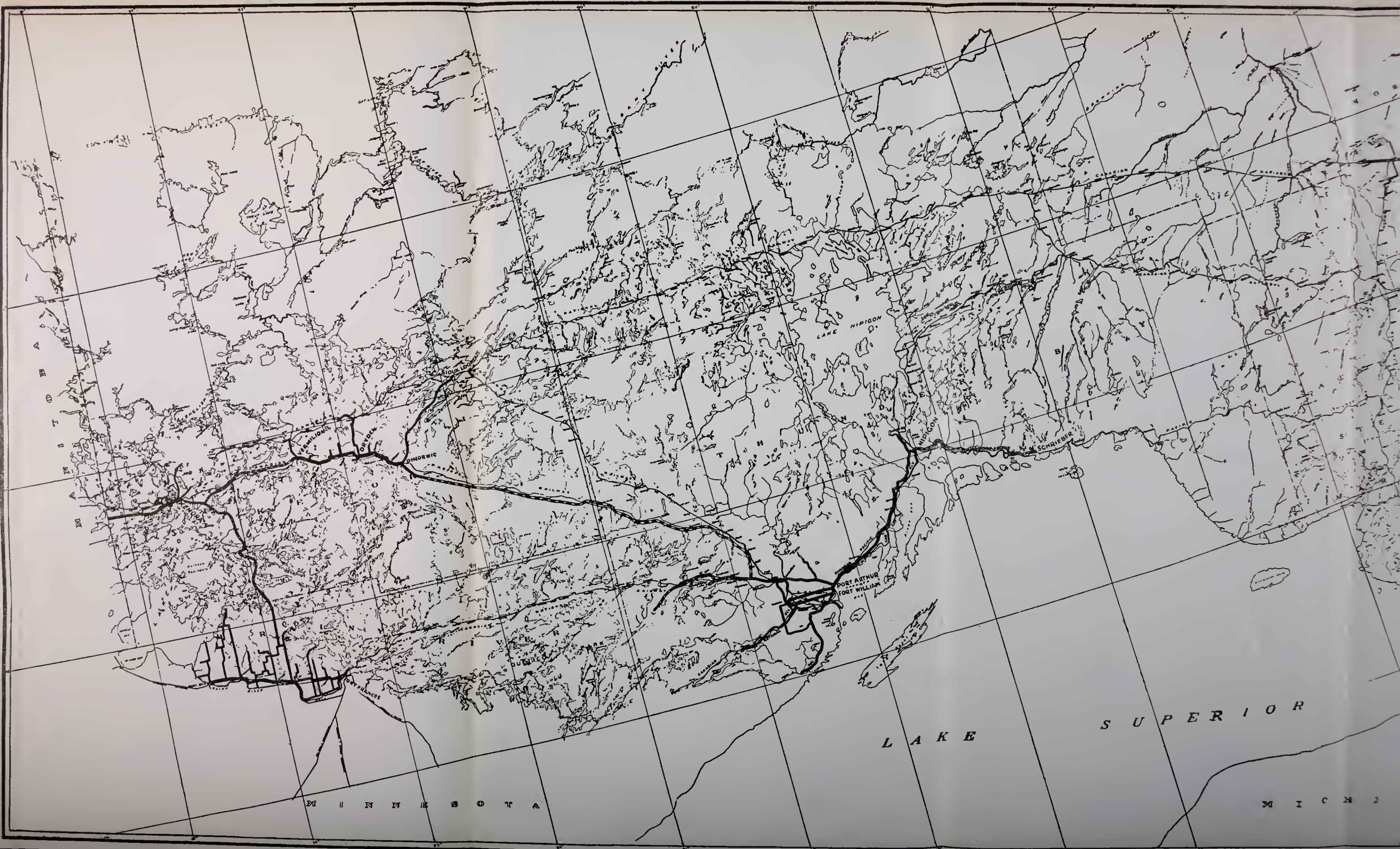
Districts
Algoma
Cochrane North
Cochrane South
Fort William
Kenora
Manitoulin
Nipissing
Port Arthur
Rainy River
Sault Ste. Marie
Sturgeon Falls
Sudbury
Temiskaming
Totals

APPENDIX B.

DEPARTMENT OF NORTHERN DEVELOPMENT

Municipal Agreement Report, 1930-1931

Districts	Cutting and Burning (New Road) Length Miles	Side Brushing (Existing Road) Length Miles	Stumping and Grubbing Length Miles	Grading New Road Length Miles	Re-grading Existing Road Length Miles	Ditching Cu. Yds.	Gravelling			Clay Surfacing		Crushed Rock			Dragging Miles	Culverts			Bridges		Cut and Fill, Cu. Yds.	Rock, Excavation, Cu. Yds.
							New Gravel		Repairs													
							Length Miles	No. Cu. Yds. Used	Length Miles	Length Miles	No. Cu. Yds. Clay Used	No. Yds. Crushed	No. Yds. Hauled	Length of Road covered Miles		Wood,	Stone or Concrete	Metal	No.	Description		
ALGOMA	....	5.60	.30	1.30	63.10	7,096	3.10	16,155	61.70	1.00	164	....	....	....	109	31	41	14	.....	1,821	....	....
COCHRANE NORTH	....	3.86	....	.31	3.50	6,956	.10	3,900	9.28	.25	....	....	....	....	95	16	.....	5	.....	....	....	....
COCHRANE SOUTH	....	1.90	....	2.80	54.00	1,338	....	1,089	1.50	.10	76	....	746	1.00	....	8	1	1	.....	....	....	4
FORT WILLIAM	5 05	47.59	5.75	3.40	58.13	2,173	7.54	16,433	7.19	1.24	1,408	....	418	.60	4,899	101	45	19	4	Repaired	....	76
KENORA	7.30	7.00	2.70	5.50	29.80	8,271	6.20	6,679	5.50	.50	470	....	....	....	290	87	2	.....	.....	....	....	....
MANITOULIN	2.25	5.66	....	2.33	40.52	664	5.00	15,223	132.50	.25	620	....	....	....	543	21	14	.....	.....	....	2,890	144
NIPISSING	.48	3.61	1.52	.39	39.40	1,929	1.52	5,176	17.75	.....	80	....	....	....	72	24	3	3	3 2	Repaired New	792	84
PORT ARTHUR	3.95	50.28	2.37	2.89	3.25	4,493	9.55	12,709	14.50	.35	535	....	....	....	856	45	2	33	.....	....	....	2,654
RAINY RIVER	9.78	129.65	4.98	4.57	12.37	12,988	4.37	17,912	94.22	1.27	823	....	....	....	4,444	88	1	9	4	Repaired	1,826	84
SAULT STE. MARIE	.50	5.10	1.40	.70	58.80	9,701	2.10	8,802	22.30	1.30	345	....	139	.50	3	33	19	9	.....	....	93	396
STURGEON FALLS	.50	20.42	....	.31	37.40	1,747	3.20	11,743	45.41	.....	....	....	....	....	588	95	2	8	16 1	Repaired New	230	172
SUDBURY	4.08	22.15	6.58	9.59	152.37	22,230	5.37	16,494	85.35	4.75	493	....	2,876	20.09	1,223	101	2	61	1	New	1,615	1,771
TEMISKAMING	....	5.80	.38	5.38	33.35	7,352	1.75	47,822	120.58	1.96	2,534	....	556	1.20	721	20	.....	5	2 1	Repaired New	2,229	760
TOTALS	33.89	308.62	25.98	39.47	585.99	86,938	49.80	180,137	854.65	12.97	8,048	....	4,735	23.39	13,843	670	132	171	34..	....	11,496	6,145


MANITOBA
KENORA
VERMILION
DRYDEN
DINORWIC
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LAKE NIPIGON
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PORT ARTHUR
FORT WILLIAM
FORT FRANCES
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PACIFIC
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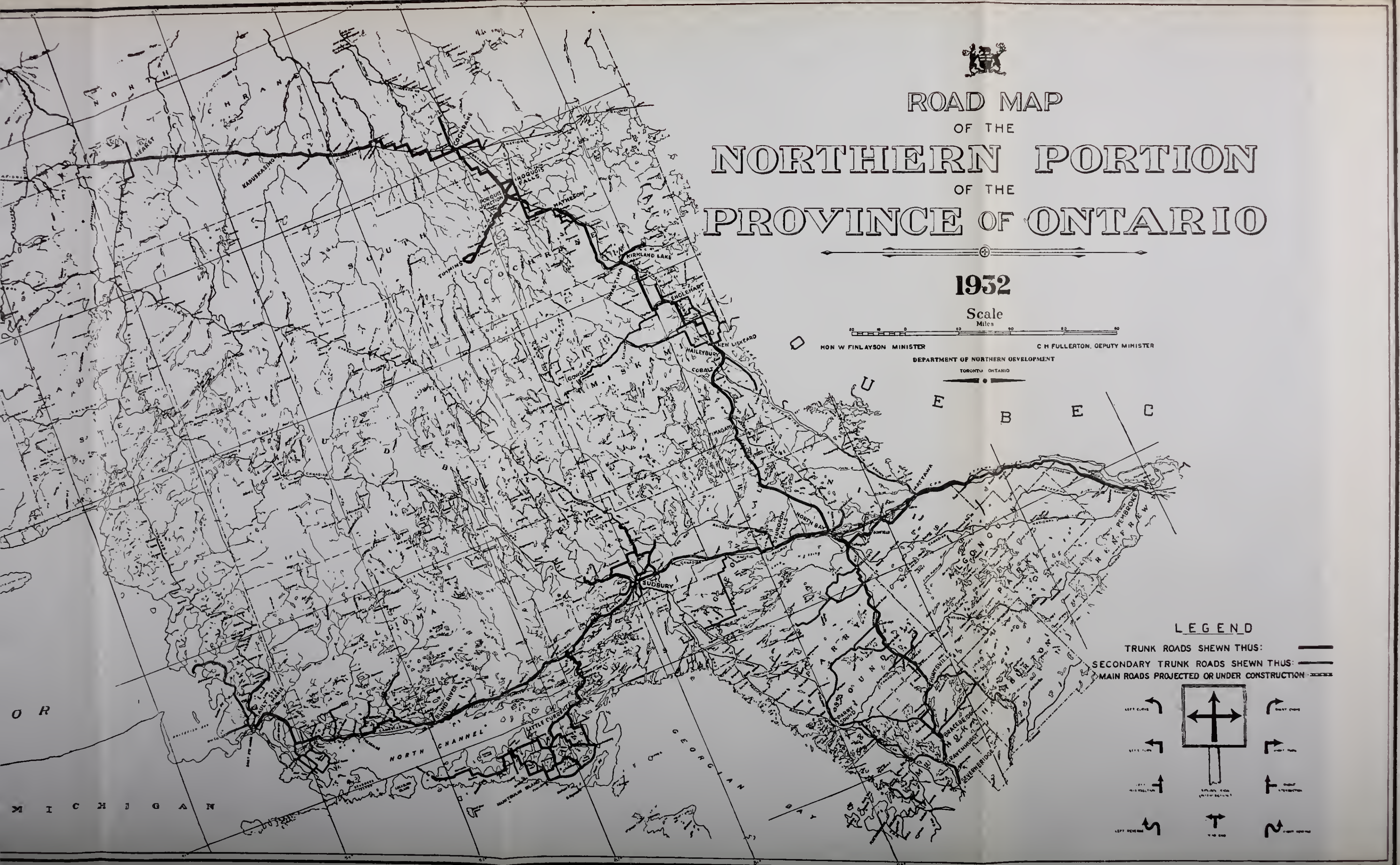

ROAD MAP OF THE NORTHERN PORTION OF THE PROVINCE OF ONTARIO

1932

Scale
Miles

HON W FINLAYSON MINISTER
C H FULLERTON, DEPUTY MINISTER
DEPARTMENT OF NORTHERN DEVELOPMENT
TORONTO ONTARIO

LEGEND
TRUNK ROADS SHEWN THUS:
SECONDARY TRUNK ROADS SHEWN THUS:
MAIN ROADS PROJECTED OR UNDER CONSTRUCTION

20
10
0
20
40
60
80
LEFT CURVE
LEFT REVERSE
NORTH
COCHRANE
SOUTH
COCHRANE
TIMISKAMING
SUDBURY
ALGOMA
NIPISSING
PARRY SOUND
MUSKOKA
HALIBURTON
ALGONQUIN PARK
RENFREW
QUEBEC
MICHIGAN
OR
HEARST
KAPUSKASING
COCHRANE
IROQUOIS FALLS
PORQUIS JUNCTION
MATHESON
TIMMINS
KIRKLAND LAKE
ENGLEHART
NEW LISKEARD
HAILEYBURY
COBALT
GOWGANDA
TIMAGAMI
MATTAWA
NORTH BAY
STURGEON FALLS
SUDBURY
PEMBROKE
HUNTSVILLE
BRACEBRIDGE
GRAVENHURST
SEVERN BRIDGE
PARRY SOUND
SAULT STE MARIE
BLIND RIVER
LITTLE CURRENT
MANITOULIN ISLAND
NORTH CHANNEL
GEORGIAN BAY

REPORT OF THE DEPARTMENT OF
PUBLIC RECORDS AND
ARCHIVES OF
ONTARIO

1931

TWENTIETH REPORT

OF THE

Department of Public Records

AND

Archives of Ontario

BY

ALEXANDER FRASER, LL.D.

1931

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO
SESSIONAL PAPER No. 39, 1932

ONTARIO

TORONTO
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1932

CONTENTS

PAGE

Letters of Transmission v

Prefatory vii

Grants of Crown Lands in Upper Canada, 1796-1798:

- Land Book C 1
- Land Book D 101

Index 195

To The Right Honourable Sir William Mulock, K.C.M.G., Etc.,
Administering the Government of the Province of Ontario.

Right Honourable Sir:

I have the pleasure to present for your consideration the Report of the Department of Public Records and Archives of Ontario for the year 1931.

Respectfully submitted,

E. A. Dunlop,
Treasurer of Ontario.

Toronto, 1931.

The Honourable E. A. Dunlop, Esquire, M.P.P., Etc.,
Treasurer of Ontario.

Sir:

I have the honour to submit to you the following Report in connection with the Department of Public Records and Archives of Ontario.

I have the honour to be, Sir,

Your obedient servant,

Alexander Fraser,
Deputy Minister.

Toronto, 31st December, 1931.

Ex Rebus Antiquis Erudito Oriatur

PREFATORY

The original documents published in this volume are a continuation of the material published in the reports of the Department of Public Records and Archives during recent years. This year the volume contains the records of land grants from 1st July, 1797, to 13th July, 1798. These records cover pages 100 to 334 of Land Book "C" and the first 195 pages of Land Book "D." It should be noted that an appendix in Land Book "C" contains grants made from 29th June, 1796, to 4th July, 1796. For the sake of convenience, because these records precede those of Land Book "C," they have been placed at the front of this volume. It is expected that the next volume published by the Department will bring these very interesting records of the early settlement of Upper Canada to 1800, which will complete the series.

The Department notes with pleasure an increasing interest in the history of this Province as is shown in the publications, exhibitions and activities of the provincial and local historical societies and in requests for information from the Archives. In addition to the publications of societies, several histories of counties have appeared or are being prepared for publication.

The Women's Institutes have been commendably active and the accumulation of material under their hand is becoming formidable and will become a treasure house for future reference. It is understood that material of an historical character is being put in proper form for the press. Opportunity is taken at this time to acknowledge many obligations to which this Department is under to the Institutes.

The Department finds the Institutes a valuable ally in disseminating an interest throughout the Province in family letters and papers of various kinds, many of which would be thoughtlessly destroyed. In this respect the Institutes are accomplishing work of inestimable value.

ALEXANDER FRASER.

UPPER CANADA
LAND BOOK C

29th June, 1796
to
4th July, 1796

1st July, 1797
to
20th December, 1797

UPPER CANADA, LAND BOOK C

June 29th, 1796.

Committee of Council held at the Council Chamber at the garrison at York.

Present: Hon. Peter Russell, chairman; Hon. AEneas Shaw, Hon. John McGill, Hon. D. W. Smith, members.

The committee met according to adjournment and proceeded upon reading the paragraphs of His Grace the Duke of Portland's letter to Your Excellency submitted to the consideration of the committee on the 27th inst. "wherein His Grace informs Your Excellency that it has been represented to him, that His Majesty's bounty in making grants will be abundantly liberal after charging the grantees with the expences of surveying and setting out their lands, as well as with the amount of the fees for making the grants" together with His Grace's subsequent observations and suggestions thereon.

The committee then had reference to the 34th article of His Majesty's Instructions to Your Excellency, *viz*: "And as a further encouragement to our subjects who shall become settlers as aforesaid it is our will and pleasure that the said townships and the respective allottments within the same, together with the lands to be reserved as aforesaid, shall be run and laid out by our Surveyor General of lands for the said province or some skilful person authorized by him for that purpose, that surveys together with the warrant and grants for the respective allotments shall be made out for and delivered to the several grantees free of any expence or fee whatsoever, other than such as may be payable to the different officers according to the table of fees to be established upon grants of lands made in the said province: and a proclamation having been issued by Your Excellency agreeable to this Instruction on the 7th of February, 1792, announcing to the settlers in this province, "That they were to take the estates granted to them severally free of quit rent and of any other expence, than such fees as are or may be allowed to be demanded and received by the different officers concerned in passing the patents and recording the same, to be stated in a table authorized and established by the government."

The committee might not have judged themselves at liberty to deviate from the principles of what is therein promised, had not His Grace the Duke of Portland suggested the propriety of also charging to the patentees the expence of surveying the lots granted to them. Being therefore anxious to promote every plan which may have a tendency to lessen the national expence and relieve the public from the charges of settling the province, they most readily adopt His Grace's ideas, and beg leave in consequence to recommend to Your Excellency, that the Secretary of the province be directed to add to the fees to be taken on all grants which may be issued upon petitions lodged in the Council office, subsequent to the first of July, in the present year a charge towards the expence of surveys at the rate of 26/8½ upon every 200 acres granted and 20/0 upon those of a lesser quantity to be paid by him at the end of each quarter in every year into the hands of the Acting Surveyor General for his special purpose: which will, it is supposed, agreeable to the opinion of the Acting Surveyor General upon an average indemnify Government for the expence of laying off the reserves and surveying the side and concession lines of each township and marking the lots thereon, they having been the only lines which have been usually hitherto run at the expence thereof. All those however to whom the public faith has been pledged either by order from the commander in chief, the Governor and Council of Quebec, or by proclamation issued in either province to have their lands free of expence, are of course to be exempted from this charge as well as every other, and should Your Excellency approve of this regulation, the committee recommends, that immediate notice be given to the public of its having taken place, by a proclamation rescinding in this particular the promise made by the forementioned one of Your Excellency's on the 7th of February, 1792, and which at present must be considered as binding on Government.

His Grace having likewise desired Your Excellency to consider whether this additional charge may not be extended beyond a mere indemnification to Government, by reserving such further sum as shall be judged reasonable in every grant of 1000 acres, to be laid out in defraying the public expence of the province in such manner as His Majesty may from time to time be pleased to direct.

The committee have taken this matter into their serious consideration, and beg leave with all deference to submit to Your Excellency whether it may not be equally conducive to the purposes of national economy and probably less offensive to the loyalists who are the original founders of the colony, to permit from time to time the sale of certain portions of the waste lands of the Crown for the purposes of establishing funds for erecting churches, gaols, court houses, seminaries of learning, bridges and other beneficial uses, than to grant 1200 acres individually to each person as proposed in Lower Canada, and as there still remains unaccommodated a great many land board certificates and orders of Council of two or three years standing, which from their priority of date claim of course a preference to at least recommendations of a subsequent one. The committee are induced to suggest to Your Excellency the expediency of suspending the power granted under a former resolution of Council to magistrates of recommending to farm lots, that the offices may be able to get a little forward in their business, and confining for the present the disposal of the vacant lands to Your Excellency in Council, especially as the addition lately made to its members will probably render its sittings more frequent and occasion greater dispatch with respect to the granting of lands than was before possible.

The clerk having laid before the committee a letter to Your Excellency from the Acting Surveyor General with a copy of two assignments from Mr. A. Jones, Deputy Surveyor of the district of Nassau, together with a plan of Burton-Barton —and informed them it was Your Excellency's pleasure they should state their opinion what lots were conveyed to Robert Lottridge by certificate from the land board of Nassau dated the 5th of March, 1792.

The committee observed that the assignment specified lots 18 and 19 in the first concession being 20 chains by 50 and containing 100 acres each, as the lots assigned to Robert Lottridge. But upon examining the map they found that the lots 18 and 19 in the first concession were only broken fronts to the second concession containing not more than about 40 acres together and that Lottridge's name was entered on those lots, in the second concession only. They are therefore of opinion that under the certificate of the land board referred to Lottridge can have no claim to lot 18 in the 2nd concession as not being specified therein—and that the same numbers in the first concession cannot be the lots intended in the assignment as scarcely containing one-fifth part of the quantity specified.

The committee therefore referred to the Deputy Surveyor Mr. Augustus Jones for an explanation of his instructions in these assignments, but as it had been customary for the land board of Nassau to fill up the assignments themselves and require him to put his name thereto he could not answer the question with precision, but declared to the best of his recollections that the land board considered the concessions marked 5 in the plan before the board lot 2 as the first concession and that Lottridge's lots were in that concession and not in the broken fronts therein marked as the first concession. (Signed) P. Russell, Chairman.

His Excellency the Lieutenant Governor came into Council and the above report was regularly approved, it was then ordered. That the clerk of the Council do write to the clerk of the peace of the different districts and the Surveyor General informing them of the Lieutenant Governor and Council having found it expedient to suspend the power given to magistrates by the resolution of the 6th of November, 1794—of recommending for the grant of farm lots of two hundred acres.

Adjourned.

June 30th, 1796.

The committee met from the adjournment of yesterday. The Hon. Peter Russell in the chair.

Present: Hon. AEneas Shaw, Hon. John McGill, Hon. D. W. Smith.

Read the petition of Daniel Cozens, captain in the late 2nd battalion of New Jersey Volunteers. Stating that the petitioner is disposed to cultivate and improve lands in this province. Prays for such lands, as his rank intitles him to. Recommended to grant the petitioner 3000 acres as a reduced captain, on condition of his actually settling in this province, to which purpose that quantity to be appropriated for him and reserved for eighteen months. If not claimed by his personal application and residence within that time, to be then deemed open for other applicants.

Read the petition of Abraham Lawson, his son 20 years of age, and Isaac Johnson, his son-in-law. The petitioner Abraham Lawson prays for lot 13 on the north side the Carrying Place, Bay of Quinte; Isaac Johnson for lot 11, and for Abraham Lawson, son, lot 12 on the south side ditto. Annexed to the petition is a magistrate's recommendation of Abraham Lawson and Isaac Johnson. This recommendation will entitle the petitioner to 200 acres each whenever the Deputy Surveyor General shall be authorised to give it to them.

Read the petition of Terence Smith, joint heir with his brother to the late Dr. Smith. Petitioner prays for a grant of Grenadier island supposed to contain 1600 acres as part of the land his late father was entitled to. Inadmissible.

Read the petition of Terence Smith in behalf of Tryphena Cameron. Stating that her late husband William Cameron early in the spring 1776 evinced his loyalty by joining the King's standard at St. Johns, and in the year 1777 acted as pilot to His Excellency General Burgoine's army till after the death of General Fraser when he was ordered back to Canada with the general's baggage. She has four small children and prays for land. The petitioner not residing in the province no notice can be taken of the petition. Read the petition of Terence Smith. Stating that his late father was in different employments and received the pay as captain, prays for 1000 acres more. Recommended to complete the donation of 2000 acres to Doctor Smith's heirs they having already received 1400 acres.

Read the petition of Mary Clark. Stating that the petitioner is the daughter of James Clark, barrack master at Niagara and dependancies, well known to be a very old and faithful servant of His Majesty's, and being in a situation to improve and cultivate some land prays His Excellency for 1200 acres. Recommended for 800 acres.

Read the petition of James Clark, Senior, barrack master at Niagara and dependancies. The petitioner in behalf of the younger branch of his family consisting of three sons and one daughter natural subjects of Great Britain, all born in the province and having no other prospect but to remain in the province under your petitioner's protection, who has been forty-three years a faithful servant to Government, humbly solicits His Excellency for an individual grant of the unlocated lands of this province to each of them, Sarah Clark, William Clark, John Clark and George Clark. Recommended to appropriate 200 acres to each of the four children mentioned in this petition.

Read the petition of Thomas Cooper, carpenter. Stating that he has been 14 years in the province and to have received 200 acres of land prays for a lot in the town of Newark. Recommended for a town lot in Newark.

Read the petition of Samuel Shepherd, late of the King's Light American Dragoons, praying for 300 acres of land. Inadmissible, the petitioner having left the province.

Read the petition of Archibald Stewart. Petitioner has been 8 years in the province and never received any land, and praying for a grant at the settlement at Long Point. Recommended for 200 acres without specifying the place where.

Read the petition of Jacob Glover. Stating that he served during the late war, part of the time as serjeant under the command of Lord Rawdon, and has been in the province nine years and received only 100 acres of land. Prays for a further grant. Recommended to receive 400 acres in addition to the 100 acres he acknowledges to have received whenever he can lodge in the Council office a proper certificate of his having been a serjeant in Lord Rawdon's corps.

Read the petition of Prideaux Selby. Stating that he obtained an order of Council for lot 20 1st township north side of the river Thames. Petitioner understood the said lot contained 200 acres or thereabouts, but by the survey of the Deputy Surveyor in this district it contains only 111 acres therefore humbly prays for a grant of the 2nd concession of the said lot that it may become an object worthy improvement. Surveyor General to make up the quantity.

Read the petition of John Stegman, late lieutenant in the Hessian Regiment of Lossberg. Stating that your petitioner served the American war in the aforesaid regiment until the reduction took place in the year 1783, that his zeal for the service and attachment to the British Government induced him to become a settler in this province, and obtained a grant from Lord Dorchester of 900 acres of land and now prays His Excellency for the same indulgence with His Excellency's provincial officers of equal rank with himself. Referred to His Excellency and approved by His Excellency the 5th of July, 1796.

Read the petition of James Givens, Lieutenant in the Queen's Rangers. Petitioner having served as a volunteer in a company of volunteers raised at Detroit under the Command of Lieutenant Governor Hamilton during the Rebellion in America, was taken prisoner and suffered close confinement two years, praying that his services may be considered, and for a grant of land. Recommended to complete the land granted to him to 1200 acres.

Read the petition of Joseph Adrams. Stating the petitioner to be a native of England and left that kingdom in the service of Lieut. Pilkington of the Royal Engineers. Petitioner has continued with that gentleman until the present period which he trusts bespeaks his character and prays for 300 acres of land in the back part of the township of Walsingham. Recommended to grant the prayer of the petition.

Read the petition of the Rev. Robert Addison of Niagara. Stating that he formerly laid a petition for a grant of any vacant lands that might lie between the lands of Daniel Servos and the lands granted to one Cockle lying westward of the four mile creek in the township of Newark, and also that he might be admitted in administering to the effects of one John Snow, to have a small parcel of lands lying eastward of the said creek within the reserve being about 3 acres which were granted to the said Snow, who since died intestate without leaving any heirs in the province. Petitioner has a grant of only 45 acres, and therefore humbly requests that with the above which being near his dwelling place are valuable and desirable to him and that he may have an additional grant of land in what quantity and situation His Excellency shall think fit to appoint. Recommended to make up the land Mr. Addison has received 1200 acres, there being no vacant land where prayed for, and it being apprehended Snow has heirs, nothing can be said to that part of the petition.

Read Mr. Archibald Thomson's petition. Setting forth that Andrew Thomson, his wife and five children; David Thomson, wife and four children; Ebenezer Carver and wife are arrived from Britain and are desirous to settle in the province and praying for a portion of land. Recommended for Andrew Thomson self and family 400 acres; David Thomson do. 400 acres; Ebenezer Carver and wife 200 acres upon their taking the required oaths.

Read the petition of Archibald Thomson. Petitioner praying for additional lands for his wife and family. To lie over.

Read the following petitions:

Silas Serjeant. Petitioner is settled on lot 10 first concession Darlington, which he has greatly improved, prays that the said lot may be granted him.

James Burk. Stating that he has been settled on lot 16 first concession Darlington, prays to be confirmed in the said lot.

Augustus Barber. Stating that he has been settled on lot 9 in the 1st concession Darlington, and having improved the same prays to be confirmed in said lot with its broken fronts. Recommended that lot 10 to Silas Serjeant and that lot 16 to James Burk and lot 9, 1st concession Darlington township to Augustus Barber with broken fronts, if not equal to lots, be reserved for the petitioners, until they produce to the Surveyor General Mr. Pierce's permission to settle them, or until the town of Darlington is laid open in which case the petitioners to have a grant of the lots prayed for.

July 4th, 1796.

Council Chamber, York.

The Committee met from adjournment of Thursday last.

Hon. Peter Russell, Chairman; Hon. John McGill, Hon. D. W. Smith.

Mr. Carey attended the committee, and is recommended for lot 5 west side of Yonge street on the usual conditions.

Read the petition of Samuel Winterbottom. Stating that he served five years and four months in the Royal Artillery, and was discharged at his own request. He has since served as a seaman three years on lake Ontario, but now wishing to settle having a wife and four children prays for a portion of land. Recommended for 400 acres.

Read the petition of Mordica Sayles. Stating that he had received 200 acres of land and has a wife and eight children and having a promise from His Excellency for an additional 1000 acres prays for a grant of the same and that he married the daughter of the late Benjamin Fairchild, a loyalist. Recommended for 200 acres in right of his wife, the daughter of a loyalist, and 400 acres for himself.

Read the petition of Gideon Tiffany, printer to the government. Praying for a grant of land. Recommended for 400 acres.

Read the petition of John Hewett, a loyalist. Having obtained a grant for 200 acres in the township of York prays that the same may be confirmed to him and for an additional grant of 400 acres. Recommended to be confirmed with Thomas Hewett in lot 15, 2nd concession east side Yonge street and 400 acres in addition.

Read the petition of John McGill, quarter master in the late Queen's Rangers cavalry. Stating that he had received 1000 acres in part of 2000 being the amount of His Majesty's bounty. Petitioner therefore prays that the remaining 1000 may be granted in the township of York, and that lot 25, 2nd concession on the line between the Don and the Humber may be a part, the other 800 acres elsewhere. Recommended to grant the prayer of this petition by confirming the petitioner in lot 25 which he now occupies, and assigning 800 acres more where vacant.

Read the petition of Christopher Danby. Stating that he came into the province in the year 1792 with other loyalists and praying for 400 acres. Recommended for 200 acres if he has had none granted.

Read the petition of William Graham. Petitioner prays for lot 76 on the east side Yonge street adjoining to lot 77 which he has already improved, and as many acres in the rear of those lots as His Excellency may be pleased to grant for his services during the American War, as Captain Lieutenant in His Royal Highness the Duke of Cumberland's late Regiment of Foot. Recommended for 3000 acres of land as a reduced captain including lot 76 on Yonge street on condition he builds a mill there, and lot 2, second concession west side Yonge street.

Read the petition of John Carpenter. Stating that he was a volunteer and commanded one of the gun boats during General Wayne's being in the neighbourhood of the Miamis, that he has received 200 acres and prays for a further grant in addition to the 200 acres granted him. Recommended for 400 acres.

Read the petition of Joshua Cozens. Praying for a front town lot at York. Recommended to grant the prayer of the petitioner upon the usual conditions.

Read the petition of Samuel Cozens, Joshua Cozens, Daniel Cozens and Benjamin Cozens. Stating that they have received 1200 acres and praying for a grant of 1200 acres to each. Recommended that the lands already given the petitioners may be made up the quantity promised by His Excellency.

Read the petition of William Yearns. Stating that he was a private soldier in the late Col. Butler's Regiment, that he never took up any lands and prays for 300 acres. Recommended for 200 acres, and when he produces a certificate from an officer of Col. Butler's Regiment that he never took up any lands that an additional 100 acres be granted him.

Read the petition of Christopher Almos [Christian Almas]. Stating that the petitioner has been in possession of lot 19 in the 8th concession 8th township since the year 1789, the late Mr. McCleas had some claim to said lot which the heirs now resign. Impossible to decide on this petition without seeing the parties.

Read the petition of John Adair. Stating that he served as a non-commissioned officer last war in Col. Barton's Regiment and praying for a grant of lands. Recommended for 300 acres, when he appears to claim them, if no lands have been already granted.

Read the petition of General Benedict Arnold, Lieut. Richard Arnold, Lieut. Henry Arnold and Ensign Edward Arnold. Stating they are in the half-pay list as reduced officers, and praying for a grant of a township. When these officers appear and incline to settle in this province, the land they are intitled to will be granted them.

Read the petition of Ebenezer Allan. Stating that he has made considerable improvements on the lands granted him above the Delaware village and by mistake has built his mill on lot 4 in the front thereof which he has since discovered to be reserved, prays His Excellency will grant him said lot. Petitioner has purchased lots 1, 2 and 3 in front of the 4th township on the north side the Thames and praying a grant for his three daughters in the rear of the said lots. The committee cannot recommend the prayer of this petition.

Read the petition of William Ashley. Stating that in the year 1787 Mr. John Collins directed your petitioner to take possession of a lot on Collins's creek, or near to it which he has greatly improved and understands said lot is not claimed by the Rev. Mr. Stuart petitioner prays for 200 acres including his improvements. Referred to the Deputy Surveyor of the district to hear the parties and report thereon.

Read the petition of Samuel Adams. Stating that he joined His Majesty's forces in Montreal in the year 1776, in the spring 1777 he again crossed lake under General Burgoyne and by his order raised a company of Rangers and continued under his direction until his capitulation at Saratoga. Petitioner paid and clothed both them and officers of the said company without any assistance from government except forty guineas received from General Burgoyne when he raised the company. Petitioner had one son a serjeant and four sons privates in the said company, and another son a serjeant in Colonel Jessup's Corps, that he never located any lands in the Eastern district where he resides, prays for land at Long Point, having only located 500 acres which the lieutenant holds. Referred to the Surveyor General to report.

Read the petition of John Godfry Ammon. Petitioner served last American war in the German troops called the Green Yagers under the command of Colonel Creuzburg and has been in Canada ever since, prays for such quantity as his services may deserve. Recommended for 300 acres as a soldier.

Read the petition of Samuel Allen. Stating from friendly expressions from Colonel Butler but more particularly from the brother of your petitioner that His Excellency has been pleased to say to him that it might be consistent provided your petitioner should become an inhabitant of the province to grant him 1000 acres of land. Petitioner prays the said tract may be laid out for him upon the road leading from the head of Lake Ontario to the river Thames or elsewhere. When the petitioner comes into this province his petition will be attended to.

Read the petition of Joseph Abbott. Stating that he served 22 years in His Majesty's 26th Regiment 16 years of which he was a serjeant he has a wife and three children and prays for a grant on the river Thames. Recommended to make up the lands already granted 500 acres and referred to the Surveyor General for location in lots 6 and 7, 2nd concession third township north side the Thames if occupied.

Read the petition of Frederick Anger, Junior, late a private in Butler's Rangers. Stating that he has received 350 acres for himself and wife but none for his four children which he had on his settlement in the county in the year 1783, prays for 200 acres as family lands. Recommended for his family remainder of lands upon producing the required certificate.

Read the petition of Charles Anger, late of Butler's Rangers. Petitioner has only received 200 acres and none for his wife, prays for the remaining 100 acres and fifty for his wife. Recommended for 100 acres in addition and 200 acres in right of his wife when he produces the required certificates.

Read the petition of Frederick Anger, son of Frederick Anger, late of Butler's Rangers. Petitioner has received 200 acres, that he married the daughter of Henry Windicker of the above-mentioned corps of Rangers, prays for 200 acres in behalf of his wife. The petitioner's wife's land will be granted when the proper certificate of her being the daughter of a loyalist is lodged in the Council office.

Read the petition of Thomas Adams, a carpenter. Petitioner has been three years in the province and has a family, and that he has received 200 acres and a town lot in Newark which he has considerably improved, and praying for an additional grant at Long Point settlement. Not recommended.

Read the petition of Charles Anderson. Stating that he came into the province in the year 1788, that he bought 100 acres on the main road leading from Niagara to Burlington bay, that he has built a two story house and other valuable buildings and has fifty acres under culture. Petitioner married the daughter of an officer, W. Henry Nellis, and that he is a natural born subject of Great Britain and prays for a grant of 1000 acres. Recommended for 200 acres for himself and 200 acres in right of his wife.

Read the petition of Christopher Brandyman. Stating that he has been 9 years in the province and has never yet applied for any land, prays for 200 acres at Long Point. Recommended for 200 acres but not at Long Point.

Read the petition of James Bennet. Stating that he came into the province 1791 and married the daughter of Thomas Carly, a loyalist, who died of his wounds in the hospital in Charles town, prays for 200 acres in right of his wife and 200 acres for himself. Recommended to be granted if no lands have been granted before, and he produces to the office the requisite certificate.

Read the petition of Robert Bessie, who served in Colonel Fanning's Regiment and afterwards in Col. Butler's Rangers, that he has a wife and three children, that he has greatly improved 200 acres which he has received, and praying for 100 acres due and family lands. Recommended for 100 acres in addition, and family lands if intitled to them.

Read the petition of Abraham and Jacob Bowman. Served during the late American war till the peace. Petitioners are desirous of building in the town of Newark, and prays for a grant of a lot each. Recommended for town lots if none have been granted.

Read the petition of John Brown. Petitioner came into the province near seven years since with a wife, three sons and three daughters, that he served His Majesty in the 62nd and 60th Regiments, prays for 650 acres for himself and family lands. Recommended for 300 acres for himself and family lands if intitled to them.

Read the petition of Henry Buchner, senior. Petitioner is from Sussex county, New Jersey, where he and his family suffered much for harbouring and assisting loyalists. Petitioner in the year 1786 brought his children into the province, the annexed certificate proves his loyalty and prays that an allowance of land may be granted him. Recommended for his own and family lands, if none have been granted before.

Read the petition of Elizabeth Bell. Petitioner came into the province in the year 1783, has one child and recommended by B. Pawling, Esq. Recommended for 200 acres.

Read the petition of John Bessey. Stating that he is the son of Robert Bessey who served in Colonel Butler's Rangers, that he has a wife and two children and praying for lands. Recommended for 200 acres.

Read the petition of John Bryant. Petitioner is the eldest of two sons left by the late Patrick Bryant deceased who served His Majesty diligently and faithfully for 20 years on lake Ontario in different capacities but chiefly and latterly as master which the annexed certificate will certify that his father had never taken up any lands and praying for a grant. Recommended for 400 acres (in consequence of his father's services).

Read the petition of Edward Brady. Stating that he has been settled 7 years in the township of Newark with a wife and four children. Petitioner has received 200 acres himself and 50 for his wife which he has considerably improved. Petitioner purchased lot 9 in the 4th concession township no. 3 from Mr. Thomas Butler for which he gave twelve pounds and has resided on it upwards of 3 years. As security from Mr. Butler, petitioner received a land board certificate but found at the Surveyor General's office the name of Thomas Butler inserted on said lot but apparently never assigned. Petitioner prays the Surveyor General be directed to assign him the same. Referred to the Surveyor General to hear the parties and report.

Read the petition of John Bayne, late store keeper in fort St. Philip in the island of Minorca. When Mr. Bayne appears the clerk of the Council is desired to inform him he will be heard at the first Council.

Read the petition of Philip Burlinger. Stating that he came into the province in the year 1788 with a wife and 8 children, that he is a loyalist for having refused during the war to take the oath to the States, that he lost the greatest part of his property which was very considerable, that he has never received any land and praying for a grant. Recommended for 200 acres and family lands if intitled to them.

Read the petition of James and Francis Baby, Esquires. For themselves and in behalf of their brothers, John, Baptiste, Daniel Dupron and Lewis Baby. Petitioners are natives and inhabitants of Upper Canada wherein they wish to remain, that they have not yet received any land of the Crown, which they hope His Excellency will think them worthy of partaking as well as their young brothers for whom they now beg leave to apply. Wherefore your petitioners respectfully pray that a quantity not under 3000 acres be granted to James Baby, 1200 acres to Francis and each of the other brothers mentioned in the petition. Recommended that 3000 acres be granted the Hon. James Baby being an Executive Councillor and 1200 acres to each of the other brothers.

Read the petition of Lieut. Thomas Butler. Stating that he has been long since in possession of a land board certificate for lots 9 and 10 in the 8th concession township of Louth at which he has been at considerable expence in erecting mills but upon his application at the Surveyor General's office found the names of Philip Frey and Co. inserted in the plan of said lots, prays that the Surveyor General may be authorised to insert his name in the place of Frey and Co. Referred to the Surveyor General to report on the merits.

Approved in Council the 5th of July by His Excellency and signed. J. G. S.

Report of persons recommended by Paul Averill with the lots wished for by them, and other circumstances relative to the township of Townsend.

Names	Authority	Date	Sworn	By Whom	Lots asked for		REMARKS
					No.	Concession	
Ashley, Solomon William	Paul Averill	9 Mar. 1797	10 March 1797	G. Forsyth, Esq........	14	9	
Averill, Ebenezer, Junior	“	24 Nov. 1796	The oath not yet returned.	....	1	10	Not known whether he is of age.
Baron, Bethuel.........	“	9 Jan. 1797	20 Oct., 1796	J. Small, Esq...........	7	12	
Bender, John..........	“	3 Jan.	The oath not yet returned.	....	7	12	No appropriation yet made as a John Bender appears in Gainsboro.
Boom, John...........	“	15 Feb.	14 Feb. 1797	R. Hamilton, Esq.......	12	7	
Boom, Nicholas........	“	15 Feb.	“	“	12	6	
Bogar, Laban..........	“	14 Feb.	4 Feb. 1797	W. Dickson, Esq.......	12	10	
Brooks, John..........	“	7 Jan.	14 Jan.	W. Dickson, Esq.......	7	4	This quiets a warrant to him for 200 acres dated 11 Oct., 1796 and order of Council, 12 May, 1796.
Brown, Neil...........	“	9 Jan.	The oath not yet returned.	....	3	3	
Buchner, Christopher...	“	3 Jan.	15 Oct. 1796	W. Dickson, Esq.......	8	12	
Buchner, Daniel........	“	5 Jan.	5 Jan. 1797	I. Swayze, Esq.........	7	6	Supposed to be the same person as Daniel Buchner which quiets a warrant for 200 acres to him, dated 24 Oct., 1796.
Buchner, Peter.........	“	3 Jan.	3 Jan. 1797	W. Dickson, Esq........	6	4	
Buch, Barzillai.........	“	3 Jan.	“	“	18	9	
Carpenter, Alexander...	“	19 Jan.	19 Jan.	J. Muirhead, Esq.......	18	9	
Cogden, John..........	“	6 Feb.	The oath not yet returned.	....	15	3	
Colver, Aaron..........	“	24 Nov. 1796	“	....	2	12	Said to have been sworn in the Council office.
Colver, Benjamin......	“	“	“	....	3	11	“ “
Colver, Jabez, Junior...	“	“	“	....	6	13	Recommended by His Honour.
Colver, John..........	“	“	“	....	1	11	Said to have been sworn in the Council office.
Colver, Gabriel........	“	“	“	....	5	11	“ Old Mr. Colver and his connections were remitted by His Excellency the Lieut. Governor to locate lands in this township
Colver, Nesbitt........	“	“	13 Feb. 1797	Samuel Ryerse, Esq.....	7	11	Recommended by His Honour.
Colver, Timothy.......	“	“	The oath not yet returned.	....	6	11	Recommended by His Honour.
Colver, Timothy, Junior	“	“	“	....	6	12	From memorandum on the original paper.

Cooley, Charles........	"	"	"	....	11	8	From memorandum on the original paper.
Danforth, Eli..........	"	2 March 1797	4 Feb. 1797	W. Kennedy Smith, Esq.	16	2	
Davis, Robert..........	"	9 Jan.	The oath not yet returned.	....	16	2	No appropriation made.
Davis, Thomas.........	"	9 Jan.	"	....	16	2	
Dougherty, Anthony....	"	16 Jan.	5 Sept. 1795	N. Pettit, Esq..........	9	10	
Doyle, Benjamin.......	"	2 March	The oath not yet returned.	....	9	10	No appropriation made.
Dudley, Gideon........	"	11 Jan.	11 Jan. 1797	James Muirhead, Esq...	10	7	
Forsyth, William, Junior	"	7 Dec. 1796	5 Jan.	" ...	14	8	
Garner, George.........	"	4 Feb. 1797	Oath taken in the Council office.	....	11	10	This quiets a warrant for 200 acres to him dated the 27 July, 1796.
Gilbert, Josiah.........	"	7 Jan.	Oath taken in the Council office.	....	12	4	This quiets a warrant for 200 acres to him dated 13 Oct. 1796
Gregory, Moses........	"	7 Jan.	"	....	4	8	This quiets a warrant for 200 acres to him dated 14 Oct. 1796.
Jenkins, Solomon.......	"	9 Jan.	20 Oct. 1796	J. Small, Esq..........	7	9	
Kemp, David, Junior...	"	2 March	7 March 1977	W. Dickson, Esq........	13	2	
Lymburner, John......	"	9 Jan.	7 Jan.	W. Dickson, Esq.......	1	3	
Lymburner, Mathew...	"	9 Jan.	7 Jan.	"	2	2	
Lock, Jacob...........	"	4 March	10 March	J. Muirhead, Esq.......	21	4	
McLary, James........	"	19 Jan.	20 Jan.	J. Muirhead, Esq.......	8	6	
McCool, Joseph........	"	24 Nov. 1796	9 Jan.	"	6	9	
McCool, William.......	"	"	The oath taken in the Council office.	....	5	9	This quiets a warrant for 200 acres to him dated 15 Oct. 1796.
McLaughlin, Edward W.	"	19 Jan. 1797	20 Jan. 1797	J. Muirhead, Esq.......	8	1	Said not to be the same man mentioned in order of Council, 4 Nov. 1794.
McMichael, Isaac W....	"	18 Feb.	24 Feb.	W. Dickson, Esq.......	14	2	Warrant issued 28 Dec. 1827.
Malcolm, Finlay, Junior	"	9 Jan.	14 Jan.	W. Dickson, Esq.......	1	2	
Malcolm, John.........	"	9 Jan.	14 Jan.	"	1	1	
Marigan, James........	"	15 Feb.	15 Feb.	J. Small, Esq...........	7	2	
Misener, John, son of Peter..............	"	7 Jan.	7 Oct. 1796	W. Dickson, Esq.......	3	7	
Meyers, John..........	"	4 Feb.	4 Feb. 1797	"	18	2	
Morgan, John Stile.....	"	21 Jan. 1797	26 Jan. 1797	W. Dickson, Esq.......	17	9	

Names	Authority	Date	Sworn	By Whom	Lots asked for		Remarks
					No.	Concession	
Muckle, John, Junior	Paul Averill	6 March	The oath not yet returned.		12	3	
Nunn, Samuel	"	3 Jan. 1797	28 Jan.	G. Forsyth, Esq.	12	8	
Olds, Gilbert	"	11 Feb.	11 Feb.	"	6	3	
Omsted, Gideon	"	24 Nov. 1796	The oath not yet returned.		13&14	3	Said to be promised 400 acres by Lieutenant-Governor from memorandum on the original papers.
Omsted, Jonas	"	24 Nov 1796	The oath not yet returned.		11	6	From memorandum on the original papers.
Ostrander, Andrew	"	25 Jan. 1797	Oath taken in the Council office.		10	1	Having received only 100 acres and wishing to remove there, which quiets a warrant for 200 acres to him 17 October, 1796.
Overholt, Jacob	"	14 Feb.	14 Feb. 1797	W. Dickson, Esq	13	7	
Overholt, Isaac	"	14 Feb.	14 Feb.	"	14	7	
Pettit, Isaac	"	20 Jan.	The oath not yet returned.		14	7	For a lot on the original papers.
Pettit, Uriah	"	24 Nov. 1796	The oath not yet returned.		7	10	From memorandum on the original papers.
Perry, Ezra	"	5 Jan. 1797	5 Jan. 1797	I. Swayze, Esq.	6	5	
Perry, Barney	"	24 Nov. 1796	19 Jan.	J. Muirhead, Esq.	1	8	
Pier, Stephen W.	"	9 Jan. 1797	7 Jan.	W. Dickson, Esq	3	5	See a letter from the Surveyor-General of 18 Apr. 1811, filed with township report.
Rogers, Benjamin	"	9 Jan.	20 Oct. 1796	J. Small, Esq.	6	10	
Sales, Ahab	"	9 Jan. 1797	20 Oct. 1796	J. Small, Esq.	5	1	
Sales, Thomas	"	9 Jan.	20 Oct. 1796	"	6	1	
Singer, John	"	14 Feb.	14 Feb. 1797	W. Dickson, Esq	15	7	
Slaght, Henry	"	5 Jan.	Oath taken in the Council office.		7	5	This quiets a warrant for 200 acres to him, no. 524.
Stanbury, Philip	"	27 Feb.	27 Feb. 1797	G. Forsyth, Esq.	1	6	
Stevens, Elijah	"	9 March	10 March	"	15	9	

Steward, Abner	"	30 Jan.	30 Jan.	G. Forsyth, Esq	10	11	
Stone, John	"	7 Jan.	The oath not yet returned.		13	4	
Sutton, John	"	4 Feb.	25 Feb. 1797	I. Swayze, Esq	8	5	
Swartout, Cornelius	"	9 Jan.	20 Oct. 1796	J. Small, Esq	8	11	
Thompson, John	"	25 Feb.	25 Feb .1797	Isaac Swayze, Esq	18	3	Not the same man as in Stamford.
Tongie, William	"	11 Jan.	11 Jan. 1796	J. Muirhead, Esq	17	3	Has since received 100 acres in addition.
Walker, John	"	28 Dec. 1796	Oath taken in the Council office.		2	8	This quiets a warrant for 200 acres to him dated 28 Dec. 1796, not the same man as in Oxford on the Rideau.
Walker, Isaac	"	28 Dec.	" "		8	8	
Walker, Ralph	"	28 Dec.	" "		8	7	
Walker, William, Junior	"	28 Dec.	9 Jan. 1797	J. Muirhead, Esq	1	9	
Wier, John	"	30 Jan. 1797	31 Jan.	G. Forsyth, Esq	19	3	
Wier, William	"	30 Jan.	31 Jan.	"	20	3	
Willocks, Benjamin, Junior	"	19 Jan.	20 Jan.	J. Muirhead, Esq	2	6	
Wilson, Andrew	"	17 Jan.	The oath not yet returned.		11	12	Not the same man as in Crowland.
Wilson, James	"	17 Jan.	" "		13	12	Not the same man as in Saltfleet, Ancaster, or Oxford on the Rideau.
Wilson, William	"	17 Jan.	" "		12	12	
Wright, Gabriel	"	11 Feb.	11 Feb. 1797	G. Forsyth, Esq	5	3	
Cooley, Gideon, Senior	Warrant no 2	13 May 1796	The oath taken in the Council office.		1	12	Described for patent.
Shaw, Michael	Warrant no 387	13 Oct. 1796	The oath taken in the Council office.		7 & ½ 8	13	An old Ranger, son in law of Jabez Colver and recommended by His Honour.
Colver, Ebenezer	Order of Council	8 Oct. 1796	The oath taken when originally located.		4 4	10 14	In lieu of the salt springs in Louth.

Surveyor General's office, 5 April 1797.

(Signed) D. W. SMITH, A.S.G.

MEMORANDA

By the instrument between Andrew Pierce and Paul Averill upon which your Honour permitted the latter to recommend settlers in Townsend, Mr. Pierce engages to give Paul Averill eight hundred acres of land on certain conditions in case he put on six actual settlers in the township.

In the anticipation of obtaining which Paul Averill in his original memorandum sets his name opposite to the numbers in the margin hereof viz.

Lot	7,	Concession	7 & 8
"	6,	"	7 & 8
"	9,	"	8

being 5 lots—or 1000 acres reckoning 200 acres granted to him by order of Council the 12th August, 1796, in addition to the above 800 acres.

This last lot it is reported was taken up by one of the Omsteds under Mr. Pierce's authority and sold to John Muckle with Omsted's improvements for valuable consideration.

In the same memorandum were the following names as if actual settlers in Townsend but your Honour's directions being read to Mr. Averill and he professing not to know whether they had received lands before or not and expressing a desire to do what was proper I searched the office and finding there was reason to believe they had other locations they were not accepted by me, viz.

Elias Long	Lot	5,	Concession	7
Jacob Long	"	6	"	6
Charles Burtch				
John Pettit				
John Kelly				
William Shaver				
Richard London	"	4	"	6

Soon after the township was surveyed the following persons called at the office and said Mr. Pierce had no objection to their settling in Townsend but as they did not bring any authority with them a memorandum only was made thereof, viz.

Isaac Fairchild	Lot	13,	Concession	1
J. Whiting	"	14,	"	1
B. Green	"	15,	"	1
P. Fairchild	"	17,	"	1
Selah Styles to be Warranted P.R.	"	18,	"	1
Benjamin Fairchild	"	19,	"	2

The following persons also applied to the office for permission to make actual settlement in this township but having prior locations in the province, were informed the township would not be thrown open sooner than the first of June next and that no authority or security could be given them.

Joseph Fairchild	Lot	12,	Concession	1 & 2
Levy Lewis, Junior	“	1,	“	7
John Muckle	“	9	“	8
	“	10	“	9
Benaiah Williams	“	13	“	8
Benjamin Crumb	“	16	“	8
John Pettit	“	3	“	9
Nicholas Huggerman	“	8	“	9
Stephen Emmett	“	13	“	9
Philip Bender	“	20	“	9
Joseph Smith	“	8	“	10
Jabez Colver's wife	“	4	“	12
John Colver's wife	“	9	“	12
Levy Lewis, Senior	“	1	“	13
Aaron Colver's wife	“	3	“	13
Michael Shaw's wife	“	5	“	13
——Beamer and Samuel Williams	“	1 & 2	“	14

Exclusive of the foregoing there remain 110 lots and 11 pieces of lots besides the necessary reserves.

Surveyor General's Office
5th April, 1797
(Signed) D. W. Smith, A.S.G.

1st July, 1797.

Council Chamber, at York.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. Alexander Grant, Hon. David William Smith.

Read the following petitions:

Capt. William Fraser. Praying for lands for his wife and children. Petitioner's wife recommended for 600 acres of land. Petitioner recommended for 300 acres as family lands.

Captain Archibald McDonell. Praying for lands for his wife and children. Recommended for 150 acres family lands. Petitioner's wife recommended for 600 acres.

Capt. Allan McDonell. Praying for lands for his wife and children. Petitioner's wife recommended for 600 acres. Petitioner recommended for 150 acres family lands.

Lieut. Niel McLean. Praying for lands for his children. Petitioner recommended for 200 acres family lands. His children will have lands when of age, the daughters sooner if married.

Margaret Bush. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Martin Cassleman. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist, including former grants.

Conrod Cassleman. Praying for lands as a military claimant. Recommended for 300 acres including former grants as a soldier.

Cephrenus Cassleman. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Trompeau. Praying for family lands and a gore of land between his improvements in the township of Sophiasburg and the boundary line of the reserve on Green Point. Recommended for 200 acres family lands, including the gore, if the Surveyor General states no objection.

Samuel and Moses Smith. Praying for lands as loyalists. Recommended for 200 acres each.

William Alberson. Praying for a town lot in Kingston. Petitioner does not appear to be entitled to a town lot.

Andrew Denike. Praying for a town lot in Kingston. Recommended for town lot in Kingston.

Andrew Denike. Praying to have his military lands completed and for lands in right of his wife as a loyalist. Recommended for 300 acres if not granted before.

Samuel McKiny. Praying for lands in right of his wife as a loyalist. Recommended for 200 acres.

David Fraser. Praying for lands as a loyalist. Recommended for 200 acres if not granted before.

James Ward. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Moses Ward. Praying for lands as a settler. Recommended for 200 acres if not granted before.

William Ward, Junior. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Samuel Ward. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Godfrey Snuke. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Solomon Jones. Praying for lands for his wife. Petitioner's wife recommended for 600 acres as the wife of a member of Assembly.

Jean Baptiste Barthe. Praying for lands. Recommended for 1200 acres as an old merchant.

Michael Dederick. Praying for lands in addition to 100 acres which he has received. Recommended for 200 acres additional lands.

John Cumming. Praying for lands in addition to 100 acres which he has received. Recommended for 200 acres additional lands.

Sarah Cumming, alias Allen. Praying for lands as a loyalist. Recommended for 200 acres.

David Jones, Senior. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Philip Reddick. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Andrew Spencer. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Archibald Campbell. Praying for the rear part of lot 14 and half 13 in the 5th concession of Adolphustown, as a loyalist. The lots appearing to be vacant, recommended to be granted.

Elizabeth Campbell. Praying for lands as a loyalist. Recommended for 200 acres, if not granted before.

Sarah Campbell. Praying for lands as a loyalist. Recommended for 200 acres, if not granted before.

Augustus Spencer. Praying for additional lands. Recommended for 1200 acres as a magistrate, including former grants.

Mary Ann Peters. Praying for additional lands as a loyalist. Recommended for 800 acres including former grants as the daughter of a field officer.

Gideon Adams. Praying for family lands and lands in right of his wife as a loyalist. Recommended for 300 acres family lands.

Ezra Adams. Praying for military and family lands. Recommended for 300 acres as a soldier and 150 acres family lands.

William S. Adams. Praying for military and family lands. Recommended for 500 acres as a serjeant and 200 acres family lands.

Elijah C. Adams. Praying for military and family lands. Recommended for 300 acres as a soldier and 150 acres as family lands.

Andrew Adams. Praying for military and family lands. Recommended to make up his lands to 300 acres and 150 acres for family lands.

William Rainey, as attorney for Stephen McLean. Praying that lots 187 and 200, two town lots in Kingston, together with 200 acres of land may be granted to the said McLean. The Board must be informed what is become of Stephen McLean.

Curtis Adams. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Elizabeth Adams. Praying for lands as a loyalist. Recommended for 200 acres.

James Green. Praying for lands as a settler. Recommended for 200 acres.

Samuel Sherwood, Junior. Praying for lands as a settler. Recommended for 200 acres.

Samuel Pennock. Praying for lands as a settler. Recommended for 200 acres.

David Hunter. Praying for lands as a settler. Recommended for 200 acres.

Abelec Pennock. Praying for lands as a settler. Recommended for 200 acres.

Jonathan Dunham. Praying for lands as a loyalist. Recommended for 200 acres.

Ann Dunham. Praying for lands as a loyalist. Recommended for 200 acres.

Ann Green. Praying for lands as a loyalist. Recommended for 200 acres.

Augustus Jones. Praying for a town lot in York. Recommended for a back town lot in York.

Lieut. Peter Smith. Praying for lands as a military claimant. Recommended for 200 acres as a reduced lieutenant, including former grants.

Samuel Adams. Praying that a deed may issue in his name for 200 acres of land which he has purchased from Caleb Matterson, and which had been granted to the said Matterson by the Land Board of Augusta. Recommended that the deed shall issue to Samuel Adams as the assignee of Caleb Matterson.

Solomon Rosebush. Praying for lands as a settler. Recommended for 200 acres if not granted before.

John Cornwall, Esq. Praying for lands for himself, his family and for Mrs. Cornwall. Recommended for 1200 acres as a magistrate, 250 acres for family lands and 600 acres to Mrs. Cornwall the wife of the petitioner.

William Monforton. Praying for lands. Recommended for 1200 acres as a magistrate, including former grants.

Richard Cornwall. Praying for lands as a military claimant. Recommended for 1200 acres, including former grants.

John Spencer. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Ordered, that the Acting Surveyor General do send an instruction to his deputies directing them not to deduct the allowance usually made to the head of a family of 50 acres for his wife and each of his children from such lands as are granted under any other character, except the whole together amount to 1200 acres. But this not to preclude the Council from extending the bounty of family lands to what description they think proper.

Adjourned.

3rd July, 1797. Confirmed in Council. (Signed) Peter Russell.

3rd July, 1797.

Council Chamber, at York.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. Alexander Grant, Hon. AEneas Shaw, Hon. David William Smith.

Read the following petitions:

Miss Elizabeth Russell. Praying that she may be permitted to relinquish lot 11 in the rear division of block 3 first range of blocks in the town of York, and to be granted lot 9 in the front of the same block. Recommended according to the prayer of the petition.

James McCauley. Praying for a town lot in York. Recommended for a town lot in York.

Hugh McLean. Praying for a town lot in York. Recommended for a back town lot in York.

William Berczy. Praying that he may be permitted to relinquish lot 9 in the front of block 3 in the first range of blocks in the town of York and to be granted lot 11 in the rear division of the same block in addition to the adjoining lot which he now occupies. Recommended.

Anthony Lapan. Praying for a town lot in York and 200 acres of land as a settler. Recommended for a back town lot in York.

John Willson. Praying for a town lot in York. Recommended for a back lot.

Duke William Kendrick. Praying for an additional town lot in York. Recommended, provided this and the former lots do not exceed an acre.

Charlotte Berczy. Praying for a town lot in York. Recommended.

Ordered, that 1200 acres be granted to the four principal nominees (if there be four named in any petition) of each township, or part of township, or other tract of land in this province, and that their settlers be confirmed in their lots, not exceeding 200 acres. But this is to be understood of settlers who have actually come into and are resident in the province and have not had lands granted to them in any other part of it. It is further ordered, that no recommendation not now in the office be attended to and that the nominees be strictly forbidden to locate any new settlers in the province, as none of their recommendations subsequent to this date will be regarded.

Susanna Maria Willcocks. Praying for a town lot in York. Recommended.

Adjourned.

Confirmed in Council, 3rd July, 1797. (Signed) Peter Russell.

8th July, 1797.

Council Chamber, at Newark.

Present: The Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. Alexander Grant, Hon. David William Smith.

Read the following petitions:

George Ward. - Praying for lands as a military claimant. Recommended for 500 acres, including former grants.

Thomas Fraser, one of the appropriees of the township of Mountain. Praying to have many persons who settled in that township under the recommendation of the appropriees secured in a grant of 200 acres each, also praying to be repaid the expence of surveying and running the concession lines of said township to the amount of £51 currency. Recommended that the settlers be secured and that the expence of the interior survey be repaid to petitioner out of the money received for that purpose at the Surveyor General's office.

Joseph Springfield. Stating that he has exchanged lot 23 in the 2nd concession of township no. 1 north side of the Thames, which had been assigned to him, for a part of lot 23, in the front concession of the said township (which had been assigned to Coleman Roe) which part was to extend 5½ acres in front of said lot and then by a line parallel to the side lines of the same, to extend to the 2nd concession, containing about 120 acres more or less, and being the east part thereof, and praying that each may be secured in his possessions agreeably to the above exchange. Recommended according to the prayer of the petition.

James Currie. Praying for lands as a military claimant. Recommended for an appropriation for 300 acres as a soldier for 18 months.

Abijah Smith. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months, but no deed to issue until his family is come in.

B. Crannell Beardsley. Praying for lands. Recommended for 1200 acres as a barrister.

Chattwell Parsons. Praying for lands as a military claimant. Recommended for an appropriation of 300 acres for two months from this date.

William Bowen. Praying for lands as a military claimant. Recommended for 300 acres, including former grants.

Selah Stiles. Praying for lands in right of his wife as a loyalist. Amy Stiles recommended for 200 acres as a U.E. Loyalist.

John Smith. Praying for lands as a settler. Recommended for an appropriation for 12 months in the county of York.

John Sills. Praying for additional lands as a military claimant and lands in right of his wife as a loyalist. Petitioner and his wife are each recommended for 200 acres.

Henry Brandts. Praying to have his military lands completed and for lands in right of his wife as a loyalist. Recommended for 200 acres, his wife also recommended for 200 acres.

Peter Sharp. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

John Dimond. Praying for additional lands. Recommended for 200 acres additional lands.

Daniel Smith. Praying for additional lands. Recommended for 200 acres additional lands.

Florence Donovan. Praying for additional lands. Recommended for 200 acres of additional lands.

George Brooks. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Gilbert Sharp. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Deborah, Sylvia, and Elizabeth Cadman. Praying for lands as loyalists. Recommended for 200 acres each as U.E. Loyalists, when of age or married.

Louis Dafoe, alias Prindle. Praying for lands as a loyalist. Recommended for 200 acres.

Catherine Shorts. Praying for lands as a loyalist. Recommended for 200 acres. [Marginal note—Now the wife of Arra Ferguson.]

James Cotter, Junior. Praying that his deceased brother Richard Cotter's military lands may be granted to his son David Cotter. David Cotter is recommended for 400 acres to make up his father's military lands.

Elizabeth Fitchett. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Bell. Praying for lands as a military claimant. Recommended for 500 acres, including former grants.

Catherine Loyd. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Henry Loyd. Praying for lands as a loyalist. Recommended for 200 acres, including former grants.

John Kemp. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jonas Van Alstine. Praying for lands in right of his wife as a loyalist. Jane Van Alstine recommended for 200 acres as a U.E. Loyalist.

Alexander Van Alstine. Praying for lands as a loyalist. Recommended for 800 acres as the son of a field officer.

Anne Bell. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth, Anna and Anne Detlor. Praying for lands as loyalists. Elizabeth Anna and Anne Detlor recommended for 200 acres each when of age or married.

Asa Hough. Praying for additional lands and lands in right of his wife as a loyalist. Petitioner recommended for 200 acres, including former grants. His wife recommended for 200 acres as a U.E. Loyalist.

Christopher McGrah. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jean McGrah. Praying for lands as a loyalist. Recommended for 200 acres when of age or married.

Mary Kemp. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Fairman, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Stephen Young. Praying for lands as a military claimant. Recommended for 300 acres, including former grants.

Arra Ferguson. Praying for lands as a military claimant. Recommended for 300 acres.

Charles Huff. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Solomon Huff. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Josiah Cain. Praying for family lands, and lands for himself as a settler. Recommended for 350 acres, including family lands.

George Cain. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Embury. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Zenos Ross. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

Asa and Joshua Cadman. Praying for lands as loyalists. Recommended for 200 acres each as U.E. Loyalists.

Nancy Fairman. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist, when of age or married.

Robert Fairman. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Rachel McGrah. Praying for lands as a loyalist. Recommended for 200 acres if of age or married.

Archibald Nicholson. Praying to have his military lands completed and for lands in right of his wife as a loyalist. Recommended for 300 acres, including former grants. His wife also recommended for 200 acres.

Isaac Van Alstine, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine Germaine. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Lambert Van Alstine. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres.

Louis Dafoe. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Martin Haugh. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Magdalen Cotter. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Katherine Pruyn. Praying for lands as a loyalist. Recommended for 400 acres as the daughter of a subaltern officer.

Sarah Hoffman. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John and Jacob Finkle. Praying for lands as loyalists. Recommended for 200 acres each as U.E. Loyalists.

John Simonds, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Embury. Praying for additional lands. Recommended for 1200 acres, including former grants, as a magistrate.

John Keller. Praying to have his military lands completed and for lands in right of his wife as a loyalist. Recommended for 300 acres, including former grants. His wife also recommended for 200 acres as a U.E. Loyalist.

Samuel and Peter McTagert. Praying for lands as loyalists. Recommended for 200 acres each as U.E. Loyalists.

Jacob Dimond. Praying to have his military lands completed. Recommended for 300 acres military lands, including former grants.

James Demorest. Praying for lands as a military claimant, and for lands in right of his wife as a loyalist. Recommended for 500 acres as a serjeant. His wife also recommended for 200 acres as a U.E. Loyalist.

William Shaw. Praying for lands as a military claimant. Recommended for 400 acres as a corporal.

John Pickell, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Andrew Hoffnail. Praying for lands in right of his deceased father. Recommended for 200 acres in his own right, if not granted before, but not in right of his father.

States Sager. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres as a U.E. Loyalist.

Henry Bowen. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres as a U.E. Loyalist.

Alley Dorland. Praying for lands as a loyalist. Recommmended for 200 acres as a U.E. Loyalist.

Jacob B. Chamberlain. Praying for additional lands and for lands in right of his wife as a loyalist. Recommended for 600 acres as a surgeon, including former grants. His wife recommended for 200 acres.

Job Stains. Praying for lands as a military claimant. Recommended for 300 acres, including family lands.

Florence Dunafan [Donovan]. Praying to have his military lands completed, and for lands in right of his wife as a loyalist. Recommended for 300 acres as a soldier, including former grants.

Owen McGrah. Praying for lands as a military claimant. Recommended for 300 acres as a soldier.

Peter Young. Praying for lands as a military claimant. Recommended for 300 acres as a soldier.

Daniel Loyd. Praying to have his military lands completed. Recommended for 300 acres, including former grants as a soldier.

John Haugh. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

James Warwick. Praying to have his military lands completed. Recommended for 300 acres as a soldier.

Peter Young. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

Hugh Clark. Praying for lands as a military claimant. Recommended for 300 acres as a soldier.

Philip Huffman. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

Peter Frederick. Praying for lands as a military claimant and in right of his wife as a loyalist. Recommended for 500 acres, including former grants. His wife does not appear to be entitled.

David Embury. Praying for additional lands. Recommended for 200 acres in addition to former grants.

William Sole. Praying for lands as a settler. Recommended for 200 acres.

Benjamin and Joseph Sole. Praying for lands as settlers. Recommended for 200 acres each.

Michael Murpot. Praying for lands as a loyalist. Recommended for 300 acres, including former grants.

Harman Pruyn. Praying for lands as a loyalist. Recommended for 300 acres.

Adam Hoffman. Praying for lands as a settler. Recommended for 200 acres.

Jacob Johnson. Praying for lands as a settler. Recommended for 200 acres.

Peter Hoffman. Praying for lands as a settler. Recommended for 200 acres.

Henry Walker. Praying for lands in right of his wife as a loyalist. Mary Walker recommended for 200 acres.

William Caldwell, Esq. Praying to be confirmed in 3050 acres of land granted to him by the Governor and Council of Quebec. Ordered, that Capt.

Caldwell be secured to the extent of the survey as originally made under the orders of the Governor and Council of Quebec.

John Blackburn. Praying for lands as a settler. Recommended for 200 acres.

Richard Freeman. Praying for 300 acres of land as a military claimant. Recommended for an appropriation for 12 months.

Peter Crisler. Praying for lands as a discharged soldier. Recommended for an appropriation for 12 months.

Hon. Alexander Grant. Praying for lots 23, 24, 25, 42, 43, and 45 in the township of Malden. Recommended.

The President declines confirming this recommendation until enquiry can be made of the trustees what objections they have against the township of Malden being thrown open.

(Signed) Peter Russell.

Adjourned.

24th July, 1797. Confirmed. (Signed) Peter Russell, President.

12th July, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. David William Smith, read the following petitions:

Levi Rich. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Charles Guilder. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Stephen Merrick. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Henry Markle. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Jacob Markle. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

William Vanderlip and John Jones. Praying for lot 137 in the town of Newark, formerly assigned to one Simpson, who has not improved it. Let notice be given to Simpson that if he does not appear within six months the lot will be escheated.

John Sullivan. Praying for lands as a settler. His family being brought in let a deed issue.

Prideaux Selby. Praying to be confirmed in a farm lot which he has purchased from Frederick Arnold on the south side of Detroit river. Recommended that a deed issue to Prideaux Selby for the within named lot.

Mrs. Elizabeth Andrews and Mrs. Isabella Hill. Stating that Elizabeth Andrews has an assignment in lot 194, in the town of Newark and Mrs. Isabella Hill has an order of Council for lot 239, in the same town, but the latter having built on the lot of the former, they jointly pray that the deed for lot 194 do issue to Mrs. Isabella Hill and the deed for lot 239 to Mrs. Elizabeth Andrews, which exchange will not effect the rights of any other person. Recommended.

Isabella Hill. Praying for lands. Recommended for 1200 acres.

William Caldwell, Esq. Praying for lots 23 and 26, in the township of Malden. Recommended for lot 26 if not granted to any other person or if petitioner has not taken up the whole of his lands elsewhere.

Hon. James Baby. Praying for a town lot in Newark. Recommended for an acre lot.

Robert I. D. Gray, Esq. Praying for two half acre lots in the town of Newark. Recommended for two half acre lots in Newark.

Noah Hall. Praying for lands as a settler. Recommended for an appropriation for 12 months but no deed to issue until his family is in the province.

George Weikle. Praying for lands as a settler. Recommended for 200 acres.

Mrs. Elmsley. Praying for an acre lot in the town of Newark. Recommended.

Samuel Laton. Praying for family lands and lands as a settler. Recommended for 500 acres, including family lands.

John Bigger. Praying for family lands. Recommended for 200 acres family lands.

Benjamin Hallowell, Esq. Praying for an acre lot in the town of Newark. Recommended.

Henry Dickhout. Praying for lands as a military claimant. Recommended for an appropriation of 500 acres.

Rebecca Clendennen. Praying for family lands. Recommended for 300 acres family lands.

Allan McLean. Praying for a town lot in Kingston. Recommended.

Lieut. Richard Wilkinson. Praying for family lands and to have his military lands completed. Recommended for 900 acres to complete his military lands and 150 acres family lands.

John Cameron. Praying for lands as a loyalist. Recommended for 200 acres if of age.

John Grant. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John McGregor and John Murchison. Praying for 100 acres family lands between them. Recommended for 50 acres each, but in separate deeds.

James Culbert. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Duncan Grant. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Murdoch Murchison. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John McCauley. Praying for lands as a settler. Recommended for 200 acres.

Aaron Oliver. Praying for lands as a loyalist. Recommended for 200 acres, including former grants.

Elizabeth, Ann and Cornelia Oliver. Praying for lands as loyalists. Recommended for 200 acres each if of age or married.

Ann and Caty Dougall. Praying for lands as loyalists. Recommended for 200 acres when of age or married.

Victore Bowen. Praying for lands as a loyalist, also in right of his wife as a loyalist. Recommended for 200 acres. His wife also recommended for 200 acres.

John Bowen. Praying for lands as a loyalist. Recommended for 200 acres.

David Parks. Praying for lands. Recommended for 200 acres.

Thomas Mordoff. Praying for lands as a loyalist. Recommended for 200 acres.

Eve Richardson. Praying for lands as a loyalist. Recommended for 200 acres.

Asahel Bradshaw. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres.

Mary Bradshaw. Praying for lands as a loyalist. Recommended for 200 acres.

William and Wate Ross. Praying for lands as loyalists. Recommended for 200 acres each.

Nicholas Anderson. Praying for lands as a loyalist. Recommended for 200 acres if of age.

John Schermehorn. Praying for lands for himself and his wife as loyalists. Recommended for 200 acres each, including former grants.

Thomas Wager. Praying for lands in right of his deceased father Ephraim Wager. The residue of Ephraim [Everhart] Wager's military lands, if any, to be granted to his next of kin as jointenants.

John Pensyl. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

John Post. Praying for lands as a loyalist. Recommended for 200 acres.

Eliza Wilkinson. Praying for lands as a loyalist. Recommended for 400 acres as the daughter of a subaltern.

Peter Laraway. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

George Sills. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

Andrew Embury. Praying for lands as a military claimant and in right of his wife as a loyalist. Recommended for 500 acres, including former grants, and 200 acres for his wife.

Dianah Parks. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Rambough. Praying to have his military lands completed and for lands in right of his wife as a loyalist. Recommended for 500 acres, including former grants, and for 200 acres for his wife.

Catherine McGrah. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Dulyea. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Henry Loyst. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres as a U.E. Loyalist.

Peter Detlor. Praying to have his military lands completed. Recommended for 200 acres in addition.

Jacob Detlor. Praying to have his military lands completed. Recommended for 500 acres, including former grants.

Nathaniel Parks. Praying for lands as a loyalist. Recommended for 200 acres.

Hannah Laraway. Praying for family lands. Recommended for 300 acres family lands, if not already granted to her late husband.

Lambert Van Alstine, Senior. Praying for lands as a military claimant. Recommended for 300 acres military lands, if not granted before.

James Simpson. Praying to have his military lands completed. Recommended for 500 acres, including former grants.

Abraham Bowen. Praying for lands as a loyalist. Recommended for 200 acres, including former grants.

Alexander Ferguson. Praying for lands as a settler. Recommended for 400 acres, when he becomes an actual and *bona fide* settler in the province.

Peter Bowen. Praying for lands as a loyalist. Recommended for 200 acres including former grants.

Frederick Kellar. Praying to have his military lands completed. Recommended for 300 acres, including former grants as a soldier.

John Smith. Praying for lands as a loyalist. Recommended for 200 acres, including former grants.

George Smith, Praying for lands as a loyalist. Recommended for 200 acres, including former grants.

James Lindsey. Praying for lands for himself and his wife as loyalists. Petitioner and wife each recommended for 200 acres.

Margaret Phillips. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine McMullen. Praying for lands as a settler. Recommended for 200 acres.

William Williams. Praying for lands for himself and his wife as loyalists. Recommended for 200 acres, including former grants. His wife also recommended for 200 acres.

John Anderson. Praying for family lands and lands for himself as a military claimant. Recommended for 200 acres but no warrant to issue until petitioner has made affidavit of not having received land in any other province.

David, Asal and James Bradshaw. Praying for lands in right of their deceased father as a military claimant. Recommended that 2000 acres, including former grants be granted to the next of kin of James Bradshaw, deceased.

Margaret Simpson. Praying for lands as a settler. Recommended for 200 acres.

William Dugall. Praying for lands as a military claimant. Recommended for 600 acres.

Adjourned.

25 July, 1797. Confirmed. (Signed) Peter Russell, President.

14th July, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. David William Smith.

Read the following petitions:

Henry Lockwood. Praying to be confirmed in lot 14 in Glandford. Recommended for confirmation in lot 14 in Glandford.

John Lockwood. Praying to be confirmed in lot 15 in Glandford. Recommended for confirmation in lot 15 in Glandford.

John Springer. Praying for lands for himself and his wife as loyalists. Petitioner and wife recommended for 200 acres each.

Squire Thomas. Praying for lands as a settler and a town lot in Newark. Recommended for 200 acres but no town lot.

Elizabeth Thomas. Praying for lands. Lands are not given to women, except of particular description.

Henry Clymenhager. Praying for lands as a settler. Recommended for 200 acres to be appropriated for 12 months from this date.

Mary Decker, widow of the late Thomas Decker. Praying that two lots which her late husband possessed in Gainsborough, may be granted to her. Recommended that the land be granted to the wife and children of the deceased as jointenants.

Mary Slingerlandt. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist, if of age or married.

John Peer. Praying for lands as a settler. Recommended for 200 acres.

Edward Peer. Praying for lands as a settler. Recommended for 200 acres, including former grants.

Philip Peer. Praying for lands as a settler. Recommended for 200 acres.

Jacob Peer. Praying for lands as a settler. Recommended for 200 acres.

Daniel Cassady. Praying for family lands. Recommended for 150 acres family lands.

Lieut. Miles McDonell. Praying to have his military land completed. Recommended for 2000 acres, including former grants as a reduced lieutenant.

Doctor James Davidson. Praying for lands. The committee regrets that it cannot recommend Mr. Davidson for lands, until he is actually and *bona fide* settled and resident in the province.

Robert Dickson. Praying for lands. Recommended for 1200 acres, including former grants as an old merchant.

Henry Smith, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Titus Simons. Praying for lands as a military claimant. Recommended for 2,000 acres, including former grants.

William B. Hillton. Praying for lands as a military claimant. Recommended for an appropriation of 500 acres as a serjeant for 12 months, but no deed to issue until his family is actually and *bona fide* settled in the province.

John Daniel. Praying for lands as a settler. Recommended for 200 acres.

Daniel Dehart. Praying for lands as a settler. Recommended for 200 acres.

John Graham. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months, but no deed to issue until petitioner's family is in the province.

Ebenezer Breton. Praying for lands as a settler. Recommended for 200 acres to be appropriated for 12 months but no deed to issue until his family is in the province.

Edward Brien. Praying for lands as a military claimant. Recommended for 300 acres as a sailor.

Timothy Thompson. In behalf of his wife and her three daughters which she had by a former husband, William Fraser, deceased, praying for family lands. Mrs. Thompson recommended for 600 acres as the wife of a member of Parliament and 200 acres family lands as surviving parent.

James, Ann and Jean Russell. Praying for lands as settlers. Recommended for 200 acres each.

Timothy Thompson, in behalf of John Thompson his father. Praying for lands in his right. In consideration of the petitioner's services and merits as evinced by the accompanying documents recommended for 600 acres.

Adjourned.

25th July, 1797. Confirmed. (Signed) Peter Russell, President.

20th July, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. Alexander Grant, Hon. David William Smith.

Read the following petitions:

Samuel Burdick. Praying for lands as a settler and for a lease of lot 15 2nd concession of Oxford. Recommended for 200 acres. Also recommended for a lease of the lot he has improved.

Levi Lawrence. Praying for lands as a settler. Recommended for 200 acres.

William Reynolds, Junior. Praying for lands as a settler. Recommended for 200 acres.

John Purvis. Praying for family lands. Recommended for 200 acres family lands.

Daniel Morden. Praying to have his military lands completed. Recommended for 200 acres to complete his military lands, if not granted before.

Jonathan Ferguson. Praying for additional lands. Recommended for 100 acres additional lands.

Wilkinson Ferguson. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Frederick Swatfagar. Praying for additional lands. Recommended for 200 acres additional lands.

David Palmer. Praying for family lands. Recommended for 300 acres family lands.

Henry Beemer. Praying to be confirmed in lot 14, 8th concession of township no. 4 in the Home District. Recommended to be confirmed.

William Kennedy. Praying for lands as a settler and in right of his wife as a loyalist. Petitioner and his wife recommended for 200 acres each.

Lieut. William Johnston. Praying for lands in right of his deceased father as a military claimant. Recommended for 300 acres in right of his late father.

The Rev. Mr. Prefle [Broeffel]. Praying for lands. Recommended for 1200 acres, including former grants.

Francois Xavier Rocheleau. Praying for lands as a settler and a town lot in Kingston. Recommended for 200 acres and a town lot in Kingston.

John Ferguson. Praying for a town lot in Kingston. Recommended for a town lot in Kingston.

John Ferguson. Praying for lands as a military claimant. Recommended for 2000 acres including former grants.

George Johnson. Praying for a town lot in Kingston. Recommended for a town lot in Kingston.

George Johnson. Praying for additional lands. No grounds for recommending for more than petitioner has received.

Magdalene Ferguson. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Anne Johnson. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Samuel Ainsley. Praying to have his military lands completed. Recommended for 500 acres, including former grants.

Robert Williams. Praying for lands as a military claimant. Recommended for 300 acres as a sailor.

Daniel Allen Adkins. Praying for lands as a settler and for a town lot in Kingston. Recommended for 200 acres and a town lot in Kingston.

Francis Wycott. Praying for lands as a settler and for a town lot in Kingston. Recommended for a town lot in Kingston and 200 acres.

Barbara McDougall. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christopher Fornyea. Praying for family lands. Recommended for 100 acres family lands.

James Robinson. Praying for lands as a settler. Recommended for 200 acres in Murray or elsewhere.

John Cannon. Praying for family lands. Recommended for 350 acres family lands.

John Grass. Praying for lands as a loyalist. Recommended for 200 acres.

Edward Hicks. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

Frederick Fisher. Praying for lands as a military claimant. Recommended for 300 acres as a soldier.

James Hoffman. Praying for lands as a military claimant. Recommended for 300 acres if resident in the province.

John Kellar. Praying for military and family lands. Recommended for 500 acres military and family lands if resident in the province.

Albert Ryckman. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Henry Kellar. Praying for military and family lands. Recommended for 300 acres, including former grants, the claim for family lands to stand over for certificates of the number of children.

David Harris. Praying for lands as a military claimant and in right of his wife as a loyalist. Recommended for 300 acres. His wife also recommended for 200 acres as a U.E. Loyalist.

Thomas Bell. Praying for military and family lands. Recommended for 300 acres, including former grants. Claims for family lands to stand over for certificates.

Conrad Frederick. Praying for family lands. Recommended for 300 acres family lands.

Gilbert Harris. Praying for lands as a military claimant and in right of his wife as a loyalist. Recommended for 300 acres, including former grants, his wife recommended for 200 acres as a U.E. Loyalist.

Elizabeth O'Neil, widow of Lieut. O'Neil. Praying for lands in his right as a military claimant, and for lands for her children. Such of the children of the late Lieut. O'Neil as are of age or married, recommended for 400 acres each. Also recommended that 1500 acres be granted to his wife and children as jointenants on producing a certificate that he was reduced in the province of Quebec.

Garret Miller. Praying for military and family lands, also for lands for his son and daughter as loyalists. Recommended for 300 acres military lands and 150 acres family lands if not granted before. His two children are also recommended for 200 acres each.

Henry Bush. Praying for lands for himself and his wife as loyalists. Petitioner and wife recommended for 200 acres each.

John West. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

Uriah Pettit. Praying for lands as a loyalist. Recommended for 200 acres.

Edward McMichael. Praying for family lands. Recommended for 300 acres family lands, if not granted before.

Silas Secord. Praying to have his military lands completed, to be confirmed in lot 4, in Charlotteville, also praying for family lands. Recommended for 780 acres of military and family lands including former grants.

James Concklin. Praying for lands as a settler. Recommended for 200 acres.

Roger O'Bryan. Praying for lands as a settler. Recommended for 200 acres at Long Point.

William Hambly. Praying for lands as a settler. Recommended for 600 acres as a deputy surveyor.

Isaac Pettit. Praying for lands as a loyalist. Recommended for 200 acres.

David Secord, Junior. Praying to be confirmed in lot 19 in Charlotteville and for lands in right of his wife as a loyalist. Recommended for lot 19 in Charlotteville and 200 acres for his wife.

William Miller. Praying for lands as a military claimant. Recommended for 500 acres as a serjeant.

Charles King. Praying for family lands and lands as a settler. Recommended for 300 acres, including family lands and former grants.

Conrod Haderim. Praying for lands as a settler. Recommended for 200 acres, including former grants.

Elisha Haskins. Praying for lot 6 in the broken front of Oxford. Recommended for 200 acres.

Henry Dochsteder. Praying for family lands. Recommended for 300 acres family lands.

Adjourned.

Confirmed, 25th July, 1797. (Signed) Peter Russell, President.

22d July, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. Alexander Grant, Hon. David William Smith.

Read the following petitions:

Thomas Knolton. Praying for family lands. Recommended for 150 acres family lands.

Cyrus Hands. Praying for lands. Recommended for 200 acres.

Jonathan M. Church. Praying for family lands and lands in right of his deceased father as a military claimant. Recommended for 150 acres family lands.

Elizabeth Landon. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Herman Kilborn. Praying for lands as a settler. Recommended for 200 acres.

Herman Landon. Praying for lands for his wife, additional lands for himself, as loyalists and for family lands. Recommended for 100 acres more as family lands, in all 200. His wife also recommended for 200 acres.

Daniel McEachron. Praying to have his military lands completed and for lands in right of his wife as a loyalist. Recommended for 200 acres to complete his military lands. His wife also recommended for 200 acres.

Sarah Webster. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Friend Bissell. Praying for lands as a loyalist. Recommended for 200 acres.

Joseph Bissell. Praying for family lands. Recommended for 100 acres family lands.

William Kilborn. Praying for lands as a loyalist. Recommended for 200 acres.

Asa Landon, Senior. Praying for additional lands. Petitioner has received all the lands he is entitled to.

James Adams. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Cyrus Hands. Praying for lands as a settler. Recommended for 200 acres if not granted before.

John Carter. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Joshua Bostwick. Praying for lands as a military claimant. Recommended for 500 acres if not granted before.

Cornelius Peck. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Solomon Story. Praying for family lands. Recommended for 250 acres family lands.

Daniel Throop, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Daniel Throop, Senior. Praying for lands for himself, and family as loyalists. Recommended for 500 acres of land, including family lands.

John McLean. Praying for lands for himself and family as loyalists. Recommended for 450 acres, including family lands and former grants.

Alexander Campbell. Praying for lands for his wife and children. As it appears that 200 acres was granted personally to Mrs. Campbell, that quantity is not to be deducted from the lands granted to Mr. Campbell. 100 acres family lands for a wife and one child born before the year 1789, is recommended in addition to Lieut. Campbell's military lands.

Caleb Henderson. Praying to have his military lands completed. Recommended for 300 acres to complete his military lands.

David Kilborn. Praying for lands as a settler. Recommended for 200 acres.

Samuel Kilborn. Praying for family lands. Recommended for 100 acres family lands.

Rebecca Seeley. Praying for 3000 acres of lands in remuneration of her father's losses during the American war.

The committee of Council are restricted from recommending lands as a compensation for losses, commissioners having been sent by His Majesty to this country for the especial purpose of remunerating the suffering loyalists. As the petitioner appears to have neglected this opportunity, the committee regret that they can only recommend her for 200 acres, if her father's name appears on the U.E. List.

Eleazar Fairchild. Praying to have his military lands completed. Recommended for 2000 acres, including former grants as a subaltern.

Caleb Pick. Praying to have his military and family lands completed. Recommended for 350 acres, including family lands.

William Davis. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Asahel Davis. Praying for lands for himself, and his wife as loyalists. Recommended for 200 acres each as U.E. Loyalists.

James Gage. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres.

Thomas Ghent. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres as a U.E. Loyalist.

Ann Anderson. Praying for lands as a loyalist. Recommended for 600 acres as the daughter of a captain when of age or married.

Cyrus Anderson. Praying for lands as a loyalist. Recommended for 600 acres as the son of a captain.

John McDonald. Praying for additional lands, as a magistrate. Recommended for 1200 acres, including former grants.

William Wilcox. Praying for lands as a loyalist. Recommended for 600 acres as the son of a captain.

John Kirby, Junior. Praying for lands as a settler. Recommended for 200 acres.

Christopher Culp. Praying to be confirmed in the lots 6 and in the 1st and 2d concessions of the township no. 5 in the Home district. Recommended to be confirmed.

William Gibson. Praying for lands as a military claimant. Recommended for 1200 acres of lands as a sailing master in the provincial marine.

Sarah Windecker. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jean Baptiste Rousseau. Praying for lands as an Indian interpreter. Recommended for 1200 acres, including former grants.

Henry Van Every. Praying for military and family lands in right of his deceased father McGregor Van Every. Recommended that 300 acres be granted to the wife and children of McGregor Van Every, if not granted before, as jointenants. The family lands must be given to the mother if now alive.

William Jarvis. Praying for lands for his children. Recommended that 800 acres be granted to each of the secretary's children, including former grants.

Robert McCauley. Praying for lands for his wife and children and additional lands for himself. Petitioner's children are under age. His wife recommended for 200 acres when her father's name appears on the U.E. List.

David Bradshaw. Praying for 400 acres of land in lieu of lots 98, 1st and 2nd concession of Ameliasburg, they being under certificate to other persons. Recommended for 400 acres to cover his certificates.

John Ghent. Praying for lands for himself and family. Recommended for 300 acres.

Reynard Potts. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Margaret Ryan. Praying for lands as a settler. Recommended for 200 acres.

John Carscallen. Praying for the lot immediately in the rear of the one he possesses in the 1st concession of Fredericksburg. On reading the Deputy Surveyor's report, this petition is not recommended.

William Kennedy Smith. Praying for a grant of a reserved lot 3 2nd concession of Blenheim, to build a mill on. Recommended that the lot prayed for be not reserved and that it be appropriated to petitioner on condition of building a mill by the 1st of October, 1798. Confirmed if the lot prayed for is not a clergy reserve, referred therefore to the Surveyor General, 31st July, 1797.

(Signed) P. R.

Read the following letters from the Surveyor General to His Honour the President.

S. G. O., 10th July, 1797.

May it please your Honour.

Having communicated with Mr. Aitkin respecting the error of survey in Richmond he informs me, that in his opinion, the only way to rectify that township, and to examine the front lines, noting the improvements, which are but few, and after delineating the state of it upon paper, it would then be seen whether it could be altered without materially injuring such settlers as may have sat down upon those lots, and if it could, the alteration might then be done without incurring any very great expense to Government and that at any rate it will certainly be necessary that something be done before the deeds are issued. All which is submitted to your Honour's wisdom by, &c.

(Signed) D. W. Smith, A.S.G.

Recommended that the course proposed by Mr. Aitkin be pursued.

S. G. O., 13th July, 1797.

Sir:

Several applications, many of them said to be by your Honour's desire, have been made for locations in Pickering. I therefore beg for your Honour's permission and commands to have the township surveyed, as well as Hawkesbury, near Lower Canada, where several people have applied to be located.

Twenty or thirty applications have also been made to this office for town lots on the Prequ'isle of Ontario, called Newcastle, I am therefore to beg for your Honour's orders, in case you may be pleased to permit one or two streets to be surveyed there. I am, &c.

(Signed) D. W. Smith.

Recommended that the townships of Pickering and Hawkesbury be immediately surveyed, and that a town be laid out at Newcastle.

S. G. O., 13th July, 1797.

Sir:

On the 11th July, 1793, lots 3 and 4 in the 9th township, now Rawdon, was granted to a loyalist by the name of William Davis. And on the 14th of June, 1794, lot 32 in the 8th concession of Saltfleet, was granted to the same man, with a further grant of 600 acres for himself and two sons, making together 700 acres.

In arranging this person's locations he seems to think that 900 acres were granted to him and says he produced papers to induce the Council to extend the King's bounty towards him to that extent, but fearful of exceeding the line of my duty, I decline giving him more than 700 acres altogether, without further explanation, for which purpose, I take the liberty of applying to your Honour for your commands herein.

Being respectfully, &c.

(Signed) D. W. Smith.

Let notice be given to William Davis to attend the Board.

Mordoff. Revised the petition of James and Lois Mordoff, which had been read in Council on the 7th of July, 1796, praying to be allowed to locate two hundred acres of land each in the Home district, that quantity having been granted to them by the land board of the Midland district. Let the petitioners be located wherever they please.

Adjourned.

Confirmed, 31st July, 1797. (Signed) Peter Russell, President.

25th July, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. Alexander Grant.

Read the following petitions:

George Tisdel. Praying for lands as a settler. Recommended for 200 acres.

Benjamin Hagerman. Praying for lands as a settler. Recommended for 200 acres.

Nathan I. Fowler. Praying for lands in right of his wife as a loyalist and for the broken front of lot 9 in Allen's township as a settler. Recommended for 200 acres.

John Gray. Praying for military and family lands. Recommended for 600 acres, including former grants and family lands.

John Donahoe. Praying for lands as a military claimant. Recommended for 300 acres.

James Bayman. Praying to have his military lands completed, and for lands for his wife as a loyalist. Recommended for 100 acres in addition, his wife's name not known.

Rev. Thomas Raddish. Praying for a town lot in York. Recommended for a town lot in York.

Robert I. D. Gray. Praying for a town lot in York. Recommended for a town lot in York.

William Thorn. Praying for lands as a military claimant. Recommended for 1200 acres as a sailing master in the provincial marine, including former grants.

John Williams. Praying for lands as a military claimant. Recommended for 1200 acres as a reduced lieutenant provincial marine, including former grants.

Thomas Ingersoll. Praying for a further delay in settling the township of Oxford. The Board refers to its report on the subject of the appropriations of townships for an answer to this petition.

John Missimer. Praying for family lands and lands as a settler. Recommended for 550 acres, including family lands.

Abraham Overholt. Praying for family lands and lands as a settler. Recommended for 500 acres, including family lands and former grants.

John Crampton. Praying for lands as a military claimant. Recommended for 500 acres, upon his becoming an actual settler in the province.

Bazil Rorison. Praying for family lands and to have his military lands completed. Recommended for 2100 acres of land, including family lands, and former grants. Petitioner's claim for a captain's allowance to lie over for the production of his commission.

John Bayne. Praying for lands as a settler. Recommended for 200 acres.

John Sparding. Praying for lands as a military claimant. Recommended for 400 acres.

Margaret Cating. Praying for family lands and for lands as a loyalist. Recommended for 450 acres, including family lands.

John McLauchlin. Praying for lands for himself and his sister as loyalists. Recommended for 200 acres, including former grants.

Philip Pember. Praying for family lands and lands as a settler, including lot 3 half of lot 4 in the 3rd concession of the township of Murray. Recommended for 550 acres, including family lands and former grants.

Nathaniel Lines. Praying for the water lot in front of the one he possesses in Kingston. Referred to the Acting Surveyor General to report.

Mary Trompour, alias Osburn. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Rightmyer. Praying for lands as a settler. Recommended for 200 acres.

Peter Ruttan. Praying for 50 acres of land which are unoccupied in front of the lot which he occupies in Adolphustown. Referred to the Surveyor General to report.

Daniel Cole. Praying for lot 14, between the 1st and 2nd concessions and lot 13 between the 2nd and 3rd concessions of Adolphustown. Recommended for 200 acres exclusive of former grants.

Philip and Owen Roblin. Praying for lands as loyalists. Recommended for 200 acres each as U.E. Loyalists.

Hazelton Spencer. Praying for a town lot in Kingston. Recommended for a town lot on Kingston.

Conraut Sharp. Praying for lands as a loyalist. Recommended for 200 acres.

Peter Maybe. Praying for lands as a loyalist. Recommended for 600 acres.

Daniel Pettit. Praying for family lands and lands as a settler. Recommended for 450 acres, including family lands and former grants.

Patient Spencer. Praying for lands as a loyalist. Recommended for 200 acres.

Shadrach Huff. Praying for lands as a settler. Recommended for 200 acres, including former grants.

Matthew Pruyn. Praying for lands as a magistrate. Recommended for 1200 acres, including former grants.

James Canniff. Praying for lands as a loyalist. Recommended for 200 acres.

Nicholas Hagerman. Praying for 1200 acres in addition to 600 which he has received for himself and family and for lands in right of his wife. Petitioner recommended for 1350 acres, including family lands and former grants. His wife also recommended for 600 acres, including former grants as the wife of a barrister. The President not feeling himself authorised to sanction a larger portion than 1200 acres to any individual who is not a military claimant, cannot extend more than that quantity to Mr. Hagerman. To that extent, including former grants and the 600 acres to Mrs. Hagerman the wife of the petitioner are confirmed.

31st July, 1797. (Signed) Peter Russell.

George Thompson. Praying for lands as a military claimant. Recommended for 400 acres in addition.

Thomas Welch. Praying for lands in right of his wife as a loyalist, including lot 12, 5th concession of Charlotteville. Petitioner's wife recommended for 200 acres.

Abraham Horning. Praying to be confirmed in lots 7 and 8 in the 7th concession of the township no 8 in the Home district. Recommended to be confirmed.

John Snor. Praying to be confirmed in lots no. 5, 6 in the 3rd concession of the township no. 9 in the Home district. Recommended to be confirmed.

Mrs. Catherine McGill. Praying for the remaining gore of lot 1 in the last survey of the town of York. Recommended to grant the prayer of this petition.

William Shebard. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months, but no deed to issue until his family is settled in the province.

James Coffin, Commissary at Newark. Praying for lands. The petitioner is resident in the province in the course of official duty only, when he becomes an actual and *bona fide* settler in the province in his private character, his petition will be attended to.

Adjourned.

Confirmed 31st July, 1797. (Signed) Peter Russell.

27th July, 1797.

Council Chamber at Newark.

Present: His Honour Peter Russell, Esquire, President; Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. David William Smith.

Read the following petitions:

Henry Lickers. Praying for lands as a military claimant. Recommended for 400 acres as a volunteer.

Oris Fyler. Praying to be confirmed in the lot of land which he possesses in the township of Burford. Recommended for confirmation in lot 10 in Burford.

Joseph Winter. Praying for lands as a military claimant. Recommended for 400 acres as a gunner.

Harmanus Wannamaker. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Cornelius Turner. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Conraudt Plangert. Praying for additional lands. Recommended for 200 acres additional lands.

Henry Ridner. Praying for lands as a settler. Recommended for 200 acres if not granted before.

John Roblin. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Willet Casey. Praying for family lands. Recommended for 100 acres family lands.

Mathew Crank. Praying for lands as a settler. Recommended for 200 acres if not granted before.

Owen Roblin. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary More. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christopher Hagerman. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

John Ryckman. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

The Attorney General. Stating that 200 acres of land in the township of Louth and 200 acres in Saltfleet have been granted to Peter Wychoff, that the above lands having been sold to Angus McDonell, Esquire and transferred with the consent of the land board, prays that the deeds may be cancelled having been erroneously made out in the name of the above mentioned grantee. Ordered, that the deeds above mentioned be sent for from the secretary.

William Brown. Praying for lands in the Home district. Recommended to be confirmed to make up 300 acres.

William Brown. Praying for lands in the Home district. Recommended for 200 acres to be confirmed.

James Campbell. Praying for military lands in addition. Recommended for 100 acres in addition.

Peter Montross. Praying for family and military lands and for lands for his wife and nine children, Levi, Margaret, Silas, Anderson, Simon, Hannah, Fanny, Peter, and Amy. Recommended for 400 acres to the petitioner and 200 acres to each of his children who are of age and in the province, and have not received lands.

Charles Langlade, Senior. Praying for lands as a military claimant. Recommended for 3000 acres as a captain.

Charles Langlade, Junior. Praying for lands as a military claimant. Recommended for 1200 acres as an Indian interpreter.

Prideaux Selby. Praying for lands as a military claimant. Recommended that 2000 acres be granted to Lieut. Selby, including former grants.

Richard Wilkinson, as guardian to the heirs of the late Lieut. Everitt, deceased. Praying that his military lands may be completed. Recommended that 1500 acres, the residue of Lieut. Everitt's military lands be granted to such of his next of kin as are resident in the province as tenants in common.

Jeremiah Tuttle. Praying for family lands. Recommended for 100 acres family lands.

Henry Wilson. Praying for lands as a settler. Recommended for 200 acres.

Margaret Lutes. Praying for family lands. Recommended for 250 acres family lands.

Reverend Robert Addison. Stating that he has purchased lands in Flamborough from Ralph Clinch and Robert Kerr, Esquires; that Mr. Angus McDonell who disputed part of Mr. Clinch's land with petitioner, has settled it in the presence of the Honourable D. W. Smith, Surveyor General, and praying that deeds may issue in his own name. Recommended that the grant of lots 7 in front of the first concession, 7 in the 1st, 2nd and 3rd concessions in Flamborough East and also lot 1 in the 1st concession do issue to the Rev. Robert Addison.

Confirmed, 31st July, 1797. If this order does not interfere with the rights of others claiming under orders of council, the certificates of the land board of Nassau for lots in the township of Geneva not having been confirmed by the Council.

(Signed) P. R.

Charles Gautier. Praying for lands as a military claimant. Recommended for 2000 acres, including former grants.

Adjourned.

Confirmed 31st July, 1797. (Signed) Peter Russell.

29th July, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. David William Smith.

Read the following petitions:

Ludovick Sealey. Praying for lands as a military claimant. Recommended for 300 acres as a soldier.

Ensign Samuel Tuffie. Praying to have his military lands completed. Recommended for 1700 acres to complete his military lands, it appearing that petitioner took up part of his lands and has made improvements.

Benjamin Crumb. Praying for family lands. Recommended for 100 acres family lands.

Catherine Clement. Praying for family lands. Recommended for 300 acres family lands.

James Anderson. Praying for lands as a loyalist. Recommended for 600 acres as the son of a captain.

Jean Anderson. Praying for lands as a loyalist. Recommended for 600 acres as the daughter of a captain.

Bazil Rorison. Praying for a location of lots 12, 14 and part of 13 on the Black creek, Long Point. If the lots are not reserved and not granted to any other person, petitioner may have the lots as part of his own lands on the usual condition of actual settlement at Long Point.

Edward McMichael. Stating that he is in actual possession of lots 13 and 14 in Walsingham, that the broken front of the former is claimed by one McCall and praying to have his claim decided. Let the parties attend on any council day.

Daniel Springer. Praying to be confirmed in lot 14, 3rd concession of Barton. Recommended for confirmation in lot 14, 3rd concession in Barton.

Robert Lounsbury. Praying for lands as a settler. Recommended for 200 acres.

John Fadelle. Praying for family lands, lands in right of his deceased father and lands in right of his wife as a loyalist. Recommended for 50 acres, including all claims. His wife also recommended for 200 acres as a U.E. Loyalist.

Alexander Collins. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

John Gordon. Praying for town lot in York. Recommended for a back town lot in York.

Nathaniel Oldfields. Praying for lands as a settler. Recommended for 200 acres, if not granted before.

Thomas Plummer. Praying for lands as a settler. Recommended for 600 acres as a surgeon.

James Hurst. Praying for a town lot in Newark. Recommended for a town lot in Newark.

William B. Peters, Esq. Praying for 600 acres of land in right of his wife as a loyalist, in addition to 600 which she has received as the wife of a barrister. If the petitioner will resign the 600 acres already given to his wife, as the wife of a barrister she may have 200 acres as the daughter of a loyalist.

Adjourned.

Confirmed 31st July, 1797. (Signed) Peter Russell.

31st July, 1797.

Council Chamber at Newark.

Present: Hon John Elmsley, Chief Justice; Hon. James Baby, Hon. David William Smith.

Read the following petitions:

Prideaux Selby. Stating that in the year 1795 he received an order of council for lot 20 in the township of Dover, of which one Thomas Clarke holds forcible possession and praying that the Attorney General may be directed to eject the said Clarke. Petitioner may eject Clarke himself, without recurring to the Attorney General.

John Drake. Praying for additional lands. Recommended for 1200 acres as a magistrate, including former grants.

Thomas McCrae. Praying for additional lands. Recommended for 1200 acres, including former grants as a magistrate.

Robert Surphlet. Praying for lands as a military claiment. Recommended for 1200 acres, including former grants as an old Indian interpreter.

Thomas Duiet. Praying for lands as a military claimant. Recommended for 400 acres as a gunner. [Marginal note—Should be Nicholas.]

William Bennett. Praying for lands as a settler. Recommended for 200 acres.

Andrew Hamilton. Praying for family lands and to have his military lands completed. Recommended for 250 acres to complete his family and military lands.

Hezekiah Wilcocks. Praying for family lands. Recommended for 50 acres family lands.

Benjamin Merry. Praying for lands as a settler. Recommended for 200 acres.

Thomas Crow. Praying for lands as a settler. Recommended for 200 acres.

Elizabeth McDonell. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Nathan Wheeler. Praying for lands as a settler. Recommended for 200 acres.

Jesse Hubbard. Praying for lands as a settler. Recommended for 200 acres.

Joshua Bennett. Praying for lands as a settler. Recommended for 200 acres.

Lewis Drewry. Praying for lands as a settler. Recommended for an appropriation of 200 acres for twelve months.

John Ferguson, in behalf of his wife and of George and Anne Johnson. Praying for additional lands, as loyalists. The matter of this petition was very fully considered on the former occasion.

John Eaton. Praying for lands as a settler. Recommended for 200 acres to be appropriated for 12 months.

Daniel Eaton. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months.

John Norton. Praying for lands as an Indian interpreter. Recommended for 600 acres.

Willet Casey. Praying for family lands. Recommended for 50 acres family lands. This is not to preclude an application for more if the petitioner was a soldier.

Robert and Ann Perry. Praying to be confirmed in 200 acres of land each which they received from the land board of Kingston. Surveyor General permitted to assign the land granted to Robert and Ann Perry by certificate from the land board at Kingston, in any part where the petitioners please in Haldimand. Recommended, that so much as remains unsurveyed of the town of Adolphus[town] be laid out into acre lots that the old survey be connected therewith in the best manner practicable and a protraction of the whole be laid before the Council when surveyed, a report to be collected by the Surveyor General's office of all persons having claim therein, and every person holding a ticket for the one-fifth of an acre may exchange it for an acre lot upon application to the Council in the usual manner.

James Johnston. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months.

Confirmed 31st July, 1797. (Signed) Peter Russell.

Adjourned.

1st August, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby. Hon. David William Smith.

Read the following petitions:

George Burgar. Praying for lands as a settler. Recommended for an appropriation of 200 acres for twelve months.

Joseph Burgar. Praying for lands as a settler. Recommended for an appropriation for 12 months of 200 acres.

John Farr. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months.

William Farr. Praying for lands as a settler. Recommended for 200 acres to be appropriated for 12 months.

Richard Farr. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months.

Peter N. Burgar. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months.

Peter Burgar. Praying for lands for himself and son as settlers. Recommended for an appropriation of 200 acres for 12 months and recommended for an appropriation of 200 acres for 12 months, for Thomas Burgar, but the warrant not to issue till a certificate of his having taken the oath is lodged in the Council office.

Joseph Abbot. Praying for lands as a magistrate. Recommended for 1200 acres, including former grants.

Isaac Dolson, Senior. Praying for family lands. Recommended for 500 acres family lands.

James Urquahart. Praying for lands as a magistrate. Recommended for 1200 acres, including former grants.

Daniel Fields. Praying for lands as a magistrate. Recommended for 1200 acres, including family lands.

John Ferguson. Praying that the children of Mary Brandt may be put on a footing with the sons of the late Mr. Robertson, the wife and sisters of Mr. Sheehan and the wife of Mr. Dickson who have received 1200 acres each. The late Mr. Robertson's sons were put on a footing with the sons of the Hon. Robert Hamilton, a Legislative Councillor, he having married Mr. Robertson's widow, adopted the sons and given them his name. Mrs. Sheehan and her sisters received 1200 acres as the children of a commodore. Mrs. Dickson has not received 1200 acres and if she had, the Executive Council is the best judge upon what principles lands are to be granted.

Richard Flack. Praying for lands in right of his deceased father as a military claimant. From the papers produced, ordered that the petitioner's name be put on the U.E. List, but he has not substantiated the grounds on which he claims more lands.

William Hooker Lee. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months.

Ebenezer Hill. Praying for lands as a settler. Recommended for 200 acres for 12 months.

Ashbel Post. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months.

Martin Beam. Praying for lands as a settler. Recommended for 200 acres.

William Connor. Praying for lands as a settler. Recommended for 200 acres.

Caleb Piper. Praying for lands as a settler. Recommended for 200 acres to be appropriated for 12 months.

Thomas Carle. Praying for lands as a settler. Recommended for 200 acres to be appropriated for 12 months.

Anthony Killburn. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months.

Israel Hull. Praying for lands as a settler. Recommended for 200 acres.

John Troyer. Praying for a front on the water opposite to his house and for the whole of lot 20 in Walsingham on which he lives, from the front to the base line. Recommended for the marsh in front of lot 20.

Asa Holmes. Praying to have his family lands completed. Recommended for 50 acres to complete family lands.

Joseph Provost. Praying for lands as a settler. Recommended for 200 acres.

Henry Huff. Praying for military and family lands. Recommended for 800 acres, viz., 500 as a serjeant and 300 family lands.

Solomon Lane. Praying for lands as a settler. Recommended for 200 acres.

Read the petition of Mathew Lymburner, praying for lands in right of his wife as a loyalist. The wife of the petitioner being the daughter of serjeant Jacob Young, a U.E. Loyalist, confirmed in a grant of 200 acres, if not granted before.

Adjourned.

August 2nd, 1797, Confirmed. (Signed) Peter Russell.

12th August, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. Alexander Grant, Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Read a petition from Sally Ainse, a Shawanese Indian, laying a claim to a tract of land on the north side of the river la Tranche, extending from the entrance of the said river to the Forks and the papers accompanying said petition.

Before the board can form any judgement of the propriety of this claim, as the whole of this land is included in a purchase made by the King of a considerable tract from the Indian proprietors in the year 1790, seven years subsequent to the date of the grant under which the petitioner claims, it will be necessary to cause enquiry to be made into the authenticity of the documents adduced, and if such a grant had been actually made to the petitioner, into the reasons why this land ceded to her, was not reserved from the land sold to His Majesty.

Ordered, therefore that copies of the four papers accompanying this petition be transmitted to Colonel McKee, Deputy Superintendent General of Indian Affairs, and that he be requested to report thereon to this board, without loss of time.

Ordered, also that all the petitioner's former petitions, letters and other papers relating to this business be laid before the board when this petition shall again be brought forward.

Adjourned.

13th August, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith, Speaker of the Lower House.

Read the letters of Mr. Berczy referred to the board by His Honour the President.

Resolved, that the board regrets that it cannot consistently with the general rules laid down in its report on the townships, make any exception in favour of Mr. Berczy.

Adjourned.

14th August, 1797.

Council Chamber at Newark.

Present: His Honour Peter Russell, Esquire, President, Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. Alexander Grant, Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith, Speaker of the Lower House.

Read a list of persons who have drawn lots in the town of Sandwich. With the sanction of the magistrates and consent of the parties applying for lots in the proposed town of Sandwich, the choice of lots was referred to drawing by hazard, and the following is the choice made by the persons to whose lot it fell to draw in the front street (called Russell Street).

Russell Street (First Street)

Lot 1. Richard Pattinson
" 2. Gregor McGregor
" 3. Hon. James Baby
" 4. James Allen
" 5. Col. McKee.
" 6. Angus McIntosh
" 7. Joseph Borelli
" 8. William Hands.
" 9. John McGregor
" 10. John Martin
" 11. George Meldrum, Esq.
" 12. Robert Innis
" 13. Alexander Duff
" 14. Hon. Alexander Grant
" 15. Alexander McKenzie
" 16. John Askin, Junior

(Signed) W. Roe,
C.P. and Sessions W.D.

Second Street, called Bedford Street, West side

Lot 1. George Sharp, Esq.
“ 2. Antoine Dufresne
“ 3. Francis Baby, Esq.
“ 4. John Askin, Esq.
“ 5. William Park, Esq.
“ 6. Capt. McKee
“ 7. Not drawn
“ 8. Reserved for the public
“ 9. Reserved for the public
“ 10. Thomas McCrae
“ 11. Jonathan Scheifflin
“ 12. Walter Roe, Esq.
“ 13. Baptist Baby, Esq.
“ 14. William Shepherd
“ 15. Richard Pollard, Esq.
“ 16. Prideaux Selby, Esq.

(Signed) W. Roe,

C.P. and Sessions W.D.

Third Street, called Bedford Street, East side

Lot 1.
“ 2. William Harffy, Esq. Such part as does not interfere with William Hand's farm.
“ 3. Jean Baptiste Barthe
“ 4. Dr. Robert Richardson
“ 5. Alexis Maisonville, Esq.
“ 6. William Caldwell, Esq.
“ 7. Porlier Benac
“ 8. Reserved for the public
“ 9. Reserved for the public
“ 10. Not drawn
“ 11. Robert McDougall
“ 12. Capt. Harrow
“ 13. Matthew Elliott, Esq.
“ 14. Abraham Iredell, Esq.
“ 15. James Lieth
“ 16. Mathew Dolson

(Signed) W. Roe,

C.P. and Sessions W.D.

The persons herein mentioned are recommended for the lots opposite their names.

(Signed) J. E.

Approved. (Signed) Peter Russell.
Confirmed.

(Signed) Peter Russell.

Copy.

(Signed) D. W. S.

14 August, 1797.

Read the following petitions:

Peter Smith, of Kingston. Praying for lands in right of his wife as a loyalist. Recommended for 200 acres if her name or the name of her ancestor be on the U.E. List.

Messrs Cumming and Smith, of Kingston. Stating that they are in actual possession of lots 3, 10 and 56 in the town of Kingston, which they obtained by purchase and praying that deeds for the above mentioned lots may issue in their respective names. Recommended that deeds issue to petitioners for the lots mentioned.

John Fleming, an out pensioner of Chelsea hospital. Praying for lands as a non commissioned officer. Recommended for 500 acres, if not granted before.

Benjamin Sumner, of Claremont in New Hampshire. Stating that he intends to remove into this province and praying for lands for himself, six sons five daughters and twenty-two grand children. Recommended that an appropriation be made of 600 acres for Mr. Sumner and of 200 acres for each of his sons and the sons-in-law who are of age, this appropriation to be made for 12 months from this date.

Hon. John Elmsley. Praying to lease the clergy reserve at the southerly angle of the town of Newark. Recommended.

Helen McDonell, of Kingston. Praying for a lot near York on the river Don. The lands at York are reserved for actual settlers, but the petitioner may have 200 acres any where else.

Capt. Thomas Fraser. Praying for lands for his wife and for family lands. Recommended for 350 family lands. His wife recommended for 600 acres as the wife of a member of Parliament.

Thomas Smith. Praying for lands as a military claimant, having served fourteen years in the provincial marine department. Recommended for 500 acres as a mate, including former grants.

John Graver. Praying for lands as a settler in the Midland district. Recommended for 200 acres.

Richard Duncan and associates. Stating that some time in the year 1793 they obtained an order of council for seven townships in the Eastern district, that they regret the cause of being impeded in the settlement of the same and that there has been cogent reasons and just cause for throwing them open. Petitioners confiding in the justice and generosity of the President and Council pray for such an allowance of land as the nature of their intentions may entitle them to. Recommended, that Messrs. [Richard] Duncan, Thomas and William Fraser, John Munro and Peter Drummond receive 1200 acres each as the appropriees of townships.

Adjourned.

16th August, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

Frederick Baron de Hoen. Praying for lands as a military claimant. Recommended for 3000 acres as a captain to be appropriated for 12 months from this date, 200 to be in the townhip of York.

Jacob Testis, alias Felter Coyl. Produced a blank certificate given by the land board of the Home district for 200 acres. Recommended for 200 acres if not granted before.

Capt. David McFall. Produced certificate for 800 acres for himself and family and states that 100 acres of this certificate were granted to him for his two nieces. Recommended that they be not deducted from his military lands.

Adjourned.

21st August, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

John Morgan. Praying for lands as a military claimant. Recommended for 300 acres as a sailor.

Louis Vallé. Praying for lands as a military claimant. Recommended for 300 acres as a sailor.

David Sabin. Praying for lands as a settler. Recommended for 200 acres.

Peter Martin. Praying for lands in right of his deceased brother Richard Martin as a military claimant. Recommended that the military lands of Richard Martin a deceased soldier, amounting to 300 acres, issue to Peter Martin his sole surviving next of kin.

Franey Quick. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist. [Marginal note—Faney.]

Abraham Mallat. Praying for lands in right of his wife as a loyalist. Petitioners wife recommended for 200 acres as a U.E. Loyalist.

William Baker. Praying for a town lot in Kingston. Recommended for a town lot in Kingston.

Eli Danforth. Praying for lands as a settler. Recommended for 200 acres he having resigned his claim to a location in Townsend.

William Baker. Praying for family lands and for lands in right of his wife as a loyalist. Recommended for 250 acres family lands, his wife also recommended for 200 acres as a U.E. Loyalist.

Adam Clendenning. Praying for lands as a settler. To stand over for 12 months from this date.

Daniel Hixon. Praying for lands as a settler. Recommended for 200 acres on producing a character from Mr. Cooper.

Alexander McDonald, serjeant major late 84th Regiment. Praying for lands as a military claimant. His family is not in the province.

Alexander Snyder. Praying for lands as a settler. Recommended for 200 acres having served as a volunteer during Mr. Wayne's aggression.

Peter Gilchrist. Praying to have his military lands completed. Recommended for 300 acres, including former grants as a soldier.

David Bissell, Senior. Praying for family lands. Recommended for 100 acres family lands.

Thaddeus Carter. Praying additional lands. No ground for recommending this petition.

Lieut. Ranald McDonell. Praying to have his military lands completed. Recommended for 2000 acres, including former grants.

John Tuttle. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Nelly Barton. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Peters. Praying for a lease of a small piece of ground adjoining his park no. 5 in New Johnstown. To lie over.

Four inhabitants of the township of Marlborough. Petitioning respecting roads. The petitioners are too few in numbers.

Hugh Sample. Praying for lands as a military claimant. Recommended for 300 acres as a soldier.

Sally Hurd. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Israel Nicholson. Has received 200 acres of land and praying for lands for his children. Petitioner's children will be located as they come of age.

Major Burritt. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Daniel Jones. Praying for family lands. Recommended for 150 acres family lands.

Joel Smedes. Stating that he has been for four years settled on lot 11 in the 1st concession of Wolford, which now proves to be a reserved lot and praying that the said lot may not be reserved, but be assigned to him. Recommended that the lot in question be not reserved and granted to petitioner.

Elizabeth and William Doke. Praying for lands as loyalists. Elizabeth and William Doke are each recommended for 200 acres as soldier's children if of age, but not entitled as U.E. Loyalists.

Archibald Montgomery. Praying for lands as a loyalist. Recommended for 200 acres.

Francis Scott. Praying to have his military and family lands completed. Recommended for 200 acres in addition to his former grants to complete his family and military lands.

Joseph Haskins. Praying for lot 25 1st concession of Wolford. Recommended for the lot prayed for.

John Sharp. Praying for lands as a military claimant. Recommended for 300 acres, including former grants.

Thomas T. Parmely. Praying for lot 24 2nd concession of Wolford as a settler. Recommended for 200 acres.

Abraham Louks. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Frederick Lewis Mills. Praying for lands as a settler. Recommended for 200 acres to be appropriated for 12 months from this date.

Frederick Barton. Land board certificate. Recommended for 200 acres, if not granted before.

Abraham Parnel. Land board certificate. Recommended for 200 acres, if not granted before.

Samuel Hick. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Deborah Nettleton. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Reuben Sherwood. Land board certificate. Recommended for 200 acres, if not granted before.

Archibald Montgomery. Land board certificate. Recommended for 100 acres.

Eleanor Fidler. Land board certificate. Recommended for 200 acres, if not granted before.

Daniel Truesdale. Land board certificate. Recommended for 200 acres, if not granted before.

Robert Pulman. Land board certificate. Recommended for 200 acres, if not granted before.

Daniel Burritt. Land board certificate. Recommended for 200 acres, if not granted before.

Steven Collins. Land board certificate. Recommended for 200 acres additional lands.

Ann Truesdale. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Edmund Lewis. Land board certificate. Recommended for 200 acres, if not granted before.

John David. Land board certificate. Recommended for 200 acres, if not granted before.

Silas Hamlon. Land board certificate. Recommended for 200 acres, if not granted before.

Hannah Brundige. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Nancy Night. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

John Bass. Land board certificate. Recommended for 200 acres, if not granted before.

Thankful Cole. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Dan Throop. Land board certificate. Recommended for 200 acres, if not granted before.

John Barton. Land board certificate. Recommended for 200 acres, if not granted before.

Ezekiel Rose. Land board certificate. Recommended for 200 acres, if not granted before.

Heman Holebert. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

William Barton. Land board certificate. Recommended for 200 acres, if not granted before.

Joseph Barton. Land board certificate. Recommended for 200 acres, if not granted before.

Susanah Montgomery. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Thomas Rely. Land board certificate. Recommended for 200 acres, if none granted before.

Dennis Doyle. Land board certificate. Recommended for 200 acres, if none granted before.

Thomas Moore. Land board certificate. Recommended for 200 acres, if none granted before.

David Covill, Senior. Land board certificate. Recommended for 200 acres, if not granted before.

Israel Umstead. Land board certificate. Recommended for 200 acres, if not granted before, upon the presumption that the erazure has been made by authority.

John Lee. Land board certificate. The nominee may come forward by petition the land board certificate being so far incomplete as wanting the signature of at least one member of the land board.

Margaret Chaboillez. Praying for lands. To be taken into consideration when the petitioner is actually resident in the province

Elizabeth Banta and Isaac Davis. Stating that the said Elizabeth is widow of the late Lieut. Banta that the said Davis is married to Elizabeth the daughter of the said Lieut. Banta, who died intestate and praying that 1000 acres of his land may be assigned by deed to his widow Elizabeth Banta and the remaining 1,000 acres either in the name of Isaac Davis, or in that of his wife Elizabeth. Recommended that the 2000 acres ordered to Lieut. Banta do issue to Elizabeth Banta and Elizabeth Davis in separate deeds for 1000 acres each.

The President cannot confirm this distribution of the lands of the deceased who had other children living at his decease. Those who remain subjects of another state cannot inherit their father's land in this, before they become residents in this province and place themselves under the protection of His Majesty. But the president presumes he has no right to deprive them of their share of the rewards bestowed on their father for his services by their giving those rewards to others and putting it out of their power to benefit by them should they ever return to their allegiance. If the lands of the deceased are distributed according to the established rules of the council, the children inhabiting the province will enjoy them of course. But the President thinks there has been a previous order of council relative to the disposition of these lands which must be rescinded before any new order can take place. (Signed) Peter Russell.

Isaac Davis. Praying for lands as a military claimant. Recommended for 600 acres, including former grants, as an issuing commissary.

Ann Johnson. Praying for lands as a loyalist. Recommended for 800 acres as the daughter of a field officer.

John Pottier. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

John Chrysler. Praying for lands for himself, his wife and his family, as settlers. Recommended for 200 acres, if not granted before.

Michael Wardell. Praying for a lot in the town of Newark and for lands as a military claimant. Recommended for a town lot in Newark.

Mary Ridout. Praying for a town lot in York. Recommended for a town lot at York.

Charles Willcox. Praying for lands as a settler. Recommended for 200 acres.

Captain Joseph Jessup. Stating that the following lots in the township of Young were directed to be reserved for him in part of his military lands, lots 1, 2, 3 and 4 in the 7th concession, 1, 2, 3 and 4 in the 8th concession and 1, 2 and half 3 in the 9th concession and praying that the same may be granted to him. Recommended that the lots prayed for be granted as part of his military lands.

Confirmed. If upon reference to the Surveyor General it appears that the lots prayed for have not been appropriated to others. (Signed) P.R.

Thomas Sherwood. Stating that his family lands have been deducted from his military lands and praying for 400 acres of land in the 1st and 2nd concessions of the township of Montague. Petitioner's family lands are not to be deducted.

Joseph Smith. Praying to be confirmed in lot 9 in the 6th Concession of Burford, which he has purchased from one Reuben Tucker. Certificate being produced recommended for the lot in question.

James Ryan. Praying for lands as a settler. It appearing that the petitioner has brought his family into the province and is desirous of beginning an immediate improvement, recommended for 200 acres.

Reynold's settlers. The following settlers were confirmed for location in the township of Dorchester. William Reynolds, Sarah Reynolds, William Reynolds, Junior, Othaniel Reynolds, Lucy Reynolds, Richard Reynolds, John Reynolds, George Reynolds, Henry Reynolds, Elijah Mudge, John Mudge, Jacob McKay, Thomas John, Dudley McAfee, James Scosel, Isaac Andrews, Dennis McAvay.

Garret Scram, son of Frederick Scram. Recommended for 200 acres, as son of a U.E. Loyalist.

Adjourned.

Read in Council on the 28th August, 1797 and confirmed.

(Signed) Peter Russell.

August 28th, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

Elizabeth Davis. Praying for lands in addition to 200 acres which she has received. Recommended for 200 acres in addition as the daughter of a subaltern.

Elizabeth Banta. Praying for a town lot at York. Recommended for a town lot at York.

Rev. Thomas Raddish. Stating that he has purchased several lots of land in the townships of Blenheim, Burford, Glanford and Whitby, making in the whole 4750 acres and praying that deeds may issue in his own name for said lands.

The deeds may all issue in Mr. Raddish's name, but it must be on condition that he pay for the deeds, and that no more than the lands in one township be inserted in any one deed.

His Honour the president came into council.

Agricultural society of Newark. Praying for a block of four acres in the town of Newark. The prayer of this petition granted.

Benjamin Sumner's petition of the 14th instant being revised. Ordered that the former order in his favour be rescinded.

Rev. Robert Addison. Praying for a tract of about 35 acres in the township of Newark, formerly the property of John Snow, deceased, which had been promised to petitioner by Lieut. Governor Simcoe, if no claimant appeared as heir to the said John Snow. There being other claims which appear prior in right and time to that of the petitioner, the prayer of this petition cannot be granted.

Rev. Robert Addison. Stating that he has purchased from Aaron Bradt lots 72 and 73 in Newark, and praying that deeds therefore may issue in his own name. *The prayer of this petition granted if the lots appear to the Surveyor General to be properly entered.

Catherine McDonell. Praying for a town lot in Newark. Ordered an acre lot, if no lot has been already granted to the petitioner.

Angus McDonell. Stating that he is a U.E. Loyalist and that the secretary of the province refuses to deliver him his deed for a lot of land in the town of Newark until he pays fees arbitrarily imposed. When the petitioner learns to address this board with the respect he ought to pay to the Executive Government of the province, his petition may be attended to.

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*By the Surveyor General's report of 30th June, 1798, "Properly entered."

John Blacker and Caleb Gilbert. Praying for lot 11 in the 1st concession of Rawdon, which is a reserved lot, to erect a mill on. Ordered, that lot 11 in the 1st concession of Rawdon be not reserved and the lot assigned to the petitioners as tenants in common, on condition that they erect mills thereon in two years from the present date, or they are to forfeit it.

Inhabitants of Rawdon. Praying for a mill seat, which appears to be a reserved lot. There are prior applications.

Submitted to His Honour, by the Surveyor General.

That, some of the vacant lands near Camden be reserved for the clergy, in respect to the land contained in the Isle Tonté, granted before the division of the province to Sir John Johnson.

Approved in Council. (Signed) Peter Russell.

Adjourned.

29th August, 1797.

Council Chamber at Newark.

Present: His Honour Peter Russell, Esquire, President; Hon. John Elmsley, Chief Justice, Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

Alexander McNabb Stating that he has located 1200 acres of land in the township of Windham, which he has exchanged with the Chief Justice for an equal number of acres in Haldimand and praying that the deed for the same may issue in his name. Ordered that the prayer of this petition be granted.

Allan McLean, in behalf of the heirs of the late Niel McLean. Praying for lands in addition to 1900 acres which he has received. The order of Council of 16th July, 1793, by which 1200 acres were granted to the late Niel McLean were intended to be inclusive of former grants. With respect to the present application, the bounty of the Crown is never extended to the heirs of any but those who were entitled to lands by the royal instructions.

William Dickson. Stating that he has applied to the secretary of the province accompanied by Mr. Clinch, attorney for Cornelius Folluck, for a deed in said Folluck's name, that from a small difference in the spelling of the father and the son's name, it is still refused, although by an order of Council the secretary is directed to put His Majesty's service and Council to as little delay as possible and praying for the deed in question. Ordered, that the secretary do deliver the deed to the person named in the power of attorney.

John Huff. Praying for lands as a settler. Ordered 200 acres.

Margaret Spencer, alias Richards. Land board certificate. Ordered 200 acres as a U.E. Loyalist.

Christiana Cook. Praying for 200 acres of land in the township of Hamilton, as one of the loyalists sent out by Government in the year 1792. Petitioner may receive the quantity of land indorsed for her on Mr. Motz's certificate, in case she has one.

Benjamin Bell. Praying for lands as a settler. Ordered 200 acres.

Caleb Matlock. Praying for lands as a settler. Ordered an appropriation of 200 acres for one year to bring in his family.

Jonathan Bell. Praying for lands as a settler. Ordered 200 acres.

Walter Anderson. Praying for lands as a military claimant. Ordered 600 acres.

John Kemp. Praying for lands as a military claimant. Ordered 400 acres, including former grants if any.

John Thomas. Praying for lands as a settler. Ordered 200 acres.

George Barnes. Praying for lands and a town lot at Kingston as a settler and for lands in right of his wife as a loyalist. Ordered 200 acres and a town lot to the petitioner at Kingston and 200 acres to Sarah Barnes the wife of the petitioner and daughter of a U.E. Loyalist.

John Hall. Praying for lands as a settler. Ordered 200 acres, if none have been granted before.

Jacob Beam. Praying for lands in right of his wife as a loyalist. Ordered 200 acres to petitioner's wife as a U.E. Loyalist.

William Mills. Praying for lands in addition to 400 acres which he has received. Petitioner has received all the lands given to persons of his description.

James Richardson. Praying for lands as a military claimant. Ordered 400 acres.

Nicholas Brink. Praying for lands as a settler. Ordered an appropriation of 200 acres for 12 months or until he brings in his family.

Robert Marsh. Praying for lands as a settler. Ordered an appropriation of 200 acres for 12 months or until he brings in his family.

Nathaniel Whetecomb. Praying for lands as a settler. Ordered 200 acres.

John Shark. Praying for lands as a settler. Ordered 200 acres.

Edin Beebe. Praying for family lands. Ordered 100 acres family lands, if not granted before.

Margaret Magraw. Praying for lands as a settler. Petitioner is not of the description entitled to lands.

John Creasdel. A land board certificate. Recommended for 200 acres additional land.

Adjourned.

30 August, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

George Engel. Praying for lands as a military claimant. Recommended for 300 acres as a soldier.

John Segar. Praying for additional lands as a military claimant. Recommended for 300 acres, including former grants.

Benjamin Hicks. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

John Fitzgerald. Praying for lands in addition to 100 acres which he has received. Recommended for 300 acres, including former grants.

Joseph McCartney. Praying for family lands and lands as a settler. Recommended for 300 acres, including family lands.

Ruben Hughes. Praying for military and family lands. Recommended for 600 acres, including military and family lands.

Samuel Williams. Praying for lands in addition to 100 acres which he has received as a settler. Recommended for 200 acres, including former grants.

John Miller. Praying for lands in right of his late father Jacob Miller and his late brother Cornelius Miller as military claimants. Recommended for 500 acres as heir to his father and brother.

Stephen Hare. Praying for family lands. Recommended for 500 acres family lands.

Daniel Wright. Praying for family lands. Recommended for 1200 acres, including all claims as a magistrate.

Francis Kief, Henry Saunders and Henry Simmerman. Praying for additional lands as military claimants. Recommended for 300 acres each, including former grants.

William Wright and James North. Praying for lands as military claimants. Recommended for 300 acres each.

Sarah Steel. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Ann Wright. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Alexander Ross. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

William Harrison, Junior. Stating that his deceased wife Christiana was the daughter of a U.E. Loyalist and that she died in 1796 without receiving any land and praying that the proportion she was entitled to may be assigned to him in trust for his children. Recommended that 200 acres be granted to the children of Christiana Harrison as jointenants.

Nicholas Wessels. Praying for family lands. Recommended for 300 acres family lands.

Elizabeth McCrimmen. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jeremiah Storms. Praying to have his military lands completed and for lands in right of his wife as a loyalist. Recommended for 300 acres, including former grants. His wife recommended for 200 acres as a U.E. Loyalist.

Mary Ludwig. Praying for family lands, military lands in right of her deceased husband Frederick Ludwig a military claimant. Recommended that 200 acres be granted to the wife and children and 150 to the wife of Frederick Ludwig, deceased.

Donald McCrimmen. Praying for family lands. Recommended for 150 acres family lands.

Ursula and Rachel Allen. Praying for lands as loyalists. Recommended for 200 acres each as U.E. Loyalists.

John and Jonathan Allen. Praying for lands as loyalists. Recommended for 200 acres each as U.E. Loyalists.

Isaac Secor. Praying for family lands and lands as a settler. Recommended for 500 acres, including family lands

John McArthur. Praying for additional lands as a military claimant and for lot 5 broken front in the township of Murray, on which he is settled, though it proves to be a reserved lot. Recommended for 400 acres, including former grants and for 150 acres family lands. Also recommended that the lot in Murray be not reserved, if it can be done without difficulty at the Surveyor General's office.

John McArthur, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Frederick and Loadowick Miniker. Praying for lands as loyalists. Recommended for 200 acres each as U.E. Loyalists.

Stephen Young. Praying for lot 5 on the north west side of the road leading from the Bay of Quinté, as a settler. Recommended for 200 acres, as to the Carrying Place referred to the Surveyor General.

Caleb Gilbert. Praying for additional lands. Recommended for 1200 acres, including all claims as a magistrate.

Michael Kesler. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

Charles Smith. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Ichabod Squier. Praying for lands as a military claimant including lot 6 on the north west side of the Carrying Place at the head of the Bay of Quinté. Recommended for 500 acres in Murray but with respect to the Carrying Place referred to the Acting Survey General.

Isabel Cole. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Silas Dyre. Praying for lands as a loyalist. Recommended for 600 acres as the son of a captain.

Abraham Maybe. Praying for lands as a loyalist. Recommended for 600 acres as the son of a captain.

John Ryckman, Junior. Praying for lands in right of his deceased father John Ryckman, Senior, as a loyalist. Recommended that 200 acres be granted to the wife and children of John Ryckman, deceased, in addition to the former 100.

Samuel Farrington. Praying to have his military lands completed and for lands in right of his wife as a loyalist. Recommended for 300 acres, including former grants. His wife recommended for 200 acres as a U.E. Loyalist.

Benjamin Clapp. Praying for family lands. Recommended for 250 acres family lands.

Mary Brock. Praying for family lands. Recommended for 350 acres family lands.

John Peters. Praying for lands in right of his deceased father as a military claimant. The prayer of this petition is inconsistent with general rules.

John Howell. Praying for additional lands as a military claimant. Recommended for 1200 acres as a magistrate, including all claims.

James Blackley. Praying to have his military lands completed. Recommended for 1500 acres exclusive of former grants.

Reuben Beedell. Praying for family lands. Recommended for 200 acres as family lands.

William Losee. Praying for lands as a military claimant. Recommended for 300 acres.

Andrew Johnston. Praying for family lands. Recommended for 150 acres family lands.

Henry Johnston. Praying for family lands. Recommended for 200 acres family lands.

Isaac Demill. Praying for lands as a military claimant. Recommended for 300 acres.

Daniel Haight. Praying for lands as a settler and a town lot in Adolphustown. Recommended for 200 acres and a town lot in Adolphustown.

Rachel Harris. Praying for lands as a loyalist. Recommended for 200 acres as U.E. Loyalist.

Cornelius Van Alstine. Praying for lands as a loyalist. Recommended for 800 acres inclusive, as the son of a field officer.

Elizabeth Zufelt. Praying for lands as a loyalist. Recommended for 400 acres as the daughter of a subaltern.

Mary Ferguson. Praying for lands as a loyalist. Recommended for 400 acres as the daughter of a subaltern.

Thomas Dorland. Praying for lands in addition as a military claimant. Recommended for 1200 acres as a magistrate, including former grants.

Michael Cryderman. Praying for military and family lands. Recommended for 650 acres, including family lands and former grants.

Martha Pettit. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Michael McCartney. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

James Barker. Praying for lands as a settler. Recommended for 200 acres.

Isaac Garrett. Praying for lands as a settler. Recommended for 200 acres.

Ruben Walters. Praying for lands as a settler. Recommended for 200 acres.

James Clark. Praying for lands as a settler. Recommended for 200 acres.

Isaac C. Huycke. Praying for lands as a settler. Recommended for 200 acres.

Jonathan Bowman. Praying for lands as a settler. Recommended for 200 acres.

Ichabod Bowerman. Praying for lands as a settler. Recommended for 200 acres.

Edward Barker. Praying for lands as a settler. Recommended for 200 acres.

John Beech. Praying for lands as a settler. Recommended for 200 acres.

Joseph Wessell. Praying for lands as a settler. Recommended for 200 acres.

Samuel Brack. Praying for lands as a settler. Recommended for 200 acres.

Gilbert Dorland. Praying for lands as a settler. Recommended for 200 acres.

Joel Haight. Praying for lands as a settler. Recommended for 200 acres.

Jonas Smith. Praying for lands as a settler. Recommended for 200 acres.

Jesse Potter. Praying for lands as a settler. Recommended for 200 acres.

Jacob Cronck. Praying for lands as a settler. Recommended for 200 acres.

David Barker. Praying for lands as a settler. Recommended for 200 acres.

Luke Burke. Praying for lands as a settler. Recommended for 200 acres to be appropriated for 12 months from this date.

Elizabeth Bird. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Arthur Yeomans. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Stephen Farrington. Praying for lands as a military claimant. Recommended for 300 acres, including former grants.

Paul Trumpour. Praying for family lands. Recommended for 200 acres as family lands.

Michael Sloat. Praying for family lands. Recommended for 100 acres family lands.

Mathew Steel. Praying to have his military lands completed. Recommended for 300 acres inclusive.

Philip Dorland. Praying for family lands. Recommended for 100 acres family lands.

Caleb Elsworth. Praying for lands as a settler. Recommended for 200 acres.

Robert Middleton. Praying to have his military lands completed Recommended for 300 acres inclusive.

James Grant. Praying for family lands. Recommended for 100 acres family lands.

Martines Van Blarrican. Praying for lands as a settler. Recommended for 200 acres.

Abraham Van Blarrican. Praying for lands as a settler. Recommended for 200 acres.

Peter Valleau. Stating that 200 acres have been struck off his military lands for family lands and praying 250 acres as family lands. Recommended for 250 acres family lands, exclusive of his military lands.

John Stinson. Praying for family lands. Recommended for 150 acres family lands.

Mary Hicks. Praying for lands as a loyalist. It is suggested that the petitioner is one of the loyalists who came out in 1793. In that case she cannot claim as a U.E. Loyalist, but if she has any certificate from Mr. Motz, she may have lands to the extent specified therein.

Anne Wessells. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sampson Stricker. Praying to have his military and family lands completed. Recommended for 650 acres, including military and family lands and former grants.

Joseph Allen. Praying for military lands as a captain, and for family lands. For proofs as a captain, but recommended for 350 acres family lands.

James Young. Praying for lot 3 on the north side of the Carrying Place road at the head of the Bay of Quinté. Recommended for 200 acres, as to the Carrying Place referred to the Surveyor General.

Capt. Barret Dyer. Land board certificate. Recommended for 200 acres additional lands.

Enoch Esmond. Land board certificate. Recommended for 200 acres, if not granted before.

Peter Friel. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Mary Pruyn. Land board certificate. Recommended for 200 acres as a U.E. Loyalist. (Daughter of the late Simon Deforest.)

Cornelius Blount. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Rozel Ferguson. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Isaac Preston. Magistrate's certificate. Recommended for 200 acres, if not granted before.

Philip Elsworth. Land board certificate. Recommended for 200 acres, if not granted before.

William Fox. Land board certificate. Recommended for 300 acres, if not granted before.

Jacob Starts. Land board certificate. Recommended for 100 acres additional lands.

William Harrison. Land board certificate. Recommended for 200 acres additional lands.

William Harrison, Junior. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Winifred North. Land board certificate. Recommended for 200 acres additional lands.

Nicholas Krickel. Land board certificate. Recommended for 200 acres additional lands.

Peter Shults. Land board certificate. Recommended for 200 acres additional lands.

John Sicker. Land board certificate. Recommended for 200 acres, if not granted before.

Elizabeth Gerolamay. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

James Johnson. Land board certificate. Recommended for 200 acres, if not granted before.

Jacob Ruttan. Land board certificate. Recommended for 200 acres, if not granted before.

Barnet Cole. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

David Demoree. Land board certificate. Recommended for 200 acres additional lands.

James Blackly, Senior. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Mary Davis. Land board certificate. Recommended for 200 acres as a U.E. Loyalist. [Marginal note—Daughter of Jobot Huffnail.]

Edward Hicks. Land board certificate. Recommended for 200 acres additional lands.

John Moor. Land board certificate. Recommended for 200 acres additional land.

Elizabeth Caller. Magistrate's certificate. Recommended for 200 acres as a U.E. Loyalist on the recommendation of the lieutenant of the county.

Gasport Mark. Land board certificate. Recommended for 200 acres additional lands.

Elisha Philips. Land board certificate. Recommended for 100 acres, in right of his father, deceased.

Barnhart Ingleshart. Land board certificate. Recommended for 200 acres additional lands.

Daniel Hicks. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

James Edwards. Land board certificate. Recommended for 200 acres additional lands.

Philip Martin Keller. Land board certificate. Recommended for 200 acres additional lands.

Martin Drader. Land board certificate. Recommended for 200 acres additional lands.

Garret Dingman. Land board certificate. Recommended for 200 acres additional lands.

Elizabeth Dafoe. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

David Dulmage. Land board certificate. Recommended for 200 acres additional lands.

Susanna Dawson. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Adam Lewis. Praying for lands as a settler. People of petitioner's description are not granted land unless they have military claims.

Asa Danforth. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres as a U.E. Loyalist.

Isaac Benn. Land board certificate. Recommended for 200 acres, if not granted before.

Christopher McInnally. Land board certificate. Recommended for 200 acres, if not granted before.

Stephen Tuttle. Land board certificate. Recommended to His Honour that the petitioner may be permitted to locate a lot in Hamilton, and give up lot 24, 5th concession of Yonge.

Willet Casey. Praying for lots 24 and 25 in the 4th concession of Adolphustown and for 26 acres which are vacant at the end of the said lots. Recommended that the land prayed for be granted.

Samuel Winterbottom. Praying for family lands. Recommended for 300 acres for his services on the lakes.

James Ryan. Praying for a town lot in York. Not recommended for York, but may have a town lot in Newark.

Sarah Tindell. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Doctor James McCaulay. Praying that lot 2 on the west side of the reserve in the town of York may be granted to Mrs. McCaulay. Recommended that a lot in the town of York may be granted to Mrs. McCaulay.

Elizabeth Overholt. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Shark. Praying for lands as a settler. The petitioner appears young, is not married and has not brought a recommendation from his father to say he wished him to set up for himself.

Jane Dennis. Praying for lands as a loyalist. Recommended for 200 acres. [Marginal note—daughter of John Phillips.]

James McNutt, Junior. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Gregor McGregor, of Sandwich. Praying for family lands. As it is reported that Col. McGregor has some claims to the proportion of land granted to a captain, if he can establish that claim, he may come forward for family lands, otherwise no more than 1200 acres can be granted to him, in case his children are of age they may come forward in their own right.

John Seager. Praying for lands in right of his wife as a loyalist. Gasper Tousack does not appear on the U.E. List. If petitioner gets his wife's name put on the U.E. List a warrant may issue for 200 acres.

Christian Price. Praying for family lands. Recommended for 150 acres family lands.

John Size. Praying for lands as a military claimant. Recommended for 300 acres inclusive as a mariner.

John Segar. Praying for a lot of land in lieu of lot 11, 5th concession of Louth which proves to be a glebe lot. Recommended for 200 acres in lieu of the lot resigned.

Mary Stevens. Praying for lands as a settler. Several applications of this kind have been refused.

Daniel Wilcox. Praying for lands in right of his wife. His wife recommended for 200 acres if her father appears on the U.E. List in October next, but no warrant to issue till that is ascertained.

Oliver Campbell. Praying for lands as a military claimant. Recommended for 300 acres as a soldier.

Mary Bleeker. Praying for lands as a loyalist. Recommended for 600 acres as the daughter of a captain.

Benjamin Seymour. Praying for lands as a settler. Recommended for 600 acres as a merchant.

Gabriel Laundrie, Jean Baptiste Dufresne and Joseph Launay. Praying for lands as military claimants. Recommended for 300 acres each.

Peter Lott. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jacob W. Meyers, son of Capt. Meyers. Praying for lands. Recommended for 600 acres in Murray or elsewhere.

Martin Rush. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jonathan Prosser and Jonas Senian. Praying for lands as settlers. Recommended for 200 acres each.

James Clendenning. Praying that his late father's proportion of land as a military claimant may be granted to his three brothers Walter, Abraham and John. Recommended that 300 acres issue to Walter, Abraham and John Clendenning in right of their late father.

Jacob Corbman. Praying for lands as a military claimant and for lands in right of his wife as a loyalist. Recommended for 500 acres inclusive as a serjeant. His wife also recommended for 200 acres as a U.E. Loyalist.

Catherine Slingerlandt. Praying for family lands and residue of lands her late husband was entitled to. Petitioner appearing in person, recommended for 350 acres family lands as surviving parent. Recommended also that 180 acres to complete her husband's military lands issue to her and such of her children as are now resident in the province.

Paul Gruler. Praying for lands in addition to 200 acres which he has received as a settler and for lands in right of his wife. Appears to have had his lands, but recommended for 100 acres family lands.

Adjourned.

1st September, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

Richard Robins. Praying for lands as a loyalist. Recommended for 400 acres, including former grants.

Ann Showers, alias Smith. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Cornelius Van Alstine. Praying for the rear parts of the lots 15 and 16 in the 5th concession of Adolphustown. Having read the Surveyor General's report on the above lots, the prayer of the petitioner recommended.

John Turney. Praying to have his military lands (as Lieutenant) completed, and that 100 acres of land which his deceased son John Turney was entitled to (having served during the American War as a volunteer) as the remainder of his military lands, may be granted to the son of the said John Turney and grandson of the petitioner. Recommended for 200 acres to complete his military lands. Also recommended that 100 acres be granted to petitioner's grandson as heir to his father.

David M. Rogers. Praying for lands in right of his late uncle Lieut. Col. Rogers. Petitioner's uncle never having been settled in this province, his heirs have no claim.

Willaim Robins. Praying for lands as a loyalist. Recommended for 400 acres, including former grants.

His Honour the President, came into Council, and confirmed the above recommendations.

Read the following petitions:

James Davidson. Stating that he served as a surgeon during the American War, that he has purchased a town lot in Newark and has paid the assessments and praying for such a grant of land as may be deemed meet. The petitioner being in this province only in the line of his duty as surgeon to a regiment cannot be considered as an actual settler, but when the petitioner quits the service and takes up his residence in this province the President and Council will be happy to order him the quantity of land his half pay may entitle him to.

George Okill Stuart, son of the Rev. John Stuart. Praying for lands as a loyalist. Ordered 400 acres, including former grants.

John Stuart, Junior, son of the Rev. John Stuart. Praying for lands as a loyalist. Ordered 400 acres when of age.

Charles Stuart, son of the Rev. John Stuart. Praying for lands as a loyalist. Ordered 400 acres when of age.

Andrew Stuart, son of the Rev. John Stuart. Praying for lands as a loyalist. Ordered 400 acres when of age.

James Stuart, son of the Rev. John Stuart. Praying for lands as a loyalist. Ordered 400 acres when of age.

John Spencer. Praying for an addition to 200 acres of land which he has received as a loyalist. Ordered 600 acres, including former grants.

Joseph Keeler. Praying for 1200 acres of land each to Isaiah Hall, Aaron Wallace and Martin Keeler, for having assisted him in the settling the township of Cramahé.

The petitioner Keeler being the only original appropriee of the township of Cramahé can alone be entitled to the donation of land promised to the four original petitioners, 1200 acres of land consequently ordered to Joseph Keeler as the only petitioner for Cramahé, which closes his claims for this service.

Joel Merriman, Benjamin Richardson, Resolved Cleavland and Daniel Silver. Praying for 1200 acres of land each for having assisted in settling the township of Piercy. The petitioners do not appear to have been of the principal original nominees.

Messrs. Keeler, Danforth, and Greely appeared and laid before the board lists of settlers in the townships of Hamilton, Piercy, Haldimand and Cramahé, who were ordered to be confirmed in their several locations, viz.:

HAMILTON

Luke Smades	Lot 34	2nd concession
Joshua Smades	" 24	1st "
Joseph Purdy, Junior	" 28	2nd "
Daniel Tubbs	" 9	1st "
Thomas Goheen	" 35	2nd "
Joseph Chaplin	" 34	4th "
John Robbins	" 13	1st "

Hamilton—Continued

John Wallis	Lot 6	1st concession
Frederick Tubbs	“ 10	1st “
Stambrough P. Standiliff	“ 14	Broken front
George Ash, Senior	“ 12	“ “
Asa Callender	“ 32	2nd concession
Eliud Nickerson	“ 16	Broken front
Moses Martin	“ 18	1st concession
Stephen Tuttle	“ 17	1st “
Nathaniel Harriman	“ 17	Broken front
David Ferris	“ 29	3rd concession
Joseph Ash	“ 31	2nd “
Gilbert Purdy	“ 4	Broken front
George Ash, Junior	“ 13	“ “
Samuel Ash	“ 9	“ “
Asahel Jerome	“ 7	“ “
Eli Hull	“ 7	1st concession
Abner Stephens	“ 6	Broken front
Frederick Perring	“ 18	“ “
John Vaughan	“ 1	“ “
Cornelius Benson	“ 35	3rd concession
Samuel Parker	“ 1	1st “
Samuel Parker, Junior	“ 1	2nd “
Moses Burget	“ 27	3rd “
Noah Deen	“ 26	2nd “
Benjamin Deen	“ 30	3rd “
Joseph Chaplin, Junior	“ 22	5th “
Daniel Chaplin	“ 23	5th “
Humphrey Gifford	“ 27	1st “
Isaac Haggerman	“ 29	1st “
Samuel Gifford	“ 30	1st “
Peter Harris	“ 32	1st “
Abraham Haggerman	“ 33	1st “
William McKage	“ 3	1st “
Joseph Harris	“ 33	1st “
James Ash	“ 12	1st “
Cornelius Wallis	“ 4	1st “
James Parmer	“ 16	1st “
Daniel McKeyes	“ 19	1st “
Christopher Whitney, Junior	“ 25	2nd “
William Ferris	“ 21	2nd “
Joseph Ash	“ 31	2nd “
Botten Harris	“ 32	4th “
Joshua Hix	“ 31	4th “
Phillip Raden	“ 35	4th “
William Griffin	“ 33	3rd “
John Vanatto	“ 32	3rd “
Martin Messenger	“ 17	2nd “
Michael McCartie	“ 23	3rd “
Lydia Baker, widow	“ 7	3rd “

HAMILTON—Continued

Samuel Marrim	Lot 20	5th concession
Elias Jones	" 19 and 20	Broken fronts
John Nugent	" 22	1st concession
Christopher Whitney	" 23	1st "
Moses Hopkins	" 26	1st "

61.

(Signed) Aaron Greeley. (Signed) Asa Danfo[r]th.
Signed and sworn 1st Sept., 1797. (Signed) John Small.
(Signed) Peter Russell.

PIERCY

Elihu Lincoln	Lot 12	5th concession
Samuel Pitts	" 24	1st "
Samuel Danforth	" 22	1st "
John Dunn	" 15	1st "
Gardner Cleavland	" 18	1st "
Thomas Gastin	" 17	1st "
Amasa Brunson	" 24	2nd "
Elias Turner	" 20	1st "
Daniel Silver	" 9	4th "
Resolved Cleavland	" 19	2nd "
Abner Silver	" 14	3rd "
John Richardson	" 17	3rd "
Benjamin Richardson, Junior	" 18	3rd "
Joseph Richardson	" 19	3rd "
Rogger Merrill	" 24	3rd "
Ezra Woodworth	" 14	4th "
Stephen Guknor	" 12	4th "
John Devine	" 16	4th "
Ezra Wildman	" 18	4th "
Ruloff Whitney	" 19	4th "
Barnabas Brunson	" 23	4th "
John Dukey	" 24	4th "
Solomon Woodworth	" 22	4th "
Rufus Wells	" 13	4th "
Charles Tripp	" 8	4th "
William M. Orr	" 12	7th "

26.

(Signed) Aaron Greeley.
Signed and sworn 1st Sept., 1797, in Council. (Signed) J. Small.
(Signed) Peter Russell.

HALDIMAND

Stephen Bowerman	Lot 7	1st concession	
George Baker	“ 7	2nd “	
Peter Masten	“ 6	2nd “	broken front
Gideon Bowerman	“ 31	2nd concession	
David H. Wyatt	“ 6	1st “	broken front
Peter Wyatt	“ 6	1st concession	
Zoel Burns	“ 24	2nd “	broken front
Timothy Silver	“ 24	3rd concession	
Allen Brown	“ 22	2nd “	
Zerod Bellamy	“ 16	1st “	
Patrick Moore	“ 4	1st “	broken front
Arthur Carey	“ 4	2nd “	“ “
John Stratton	“ 4	1st concession	
Joseph Lane	“ 23	2nd “	
Joseph Farrington	“ 22	2nd “	broken front
Thomas Hinman	Lot 30	1st concession	
Theron Hinman	“ 27	3rd “	
Joseph Philips	“ 21	2nd “	
Amos Anson	“ 20	3rd “	
Mathias Morris	“ 13	2nd “	
Charles Jones	“ 26	4th “	
George Wright	“ 12	2nd “	broken front
Dan Alger	“ 13	1st concession	
Moses Doolittle	“ 13	2nd “	broken front
Nathan Mitchell	“ 14	2nd “	“ “
John Carter	“ 19	1st “	
William Carter	“ 17	1st “	
John Carter, Junior	“ 18	1st “	
Isaiah Honeywell	“ 22	3rd “	
Daniel Honeywell	“ 23	3rd “	
John Brown	“ 12	1st “	
Ferdinand Grout	“ 26	1st “	
Hercules Vaughn	“ 34	2nd “	
John Kelly	“ 35	1st “	
Ichabod Richmond	“ 23	2nd “	broken front
Rana Perring	“ 26	2nd “	“ “
Jenks Weight	“ 9	2nd “	“ “
Isaac Weight	“ 9	1st concession	
Benjamin Weight	“ 10	2nd “	broken front
Samuel Williams	“ 10	1st concession	
Rice Honeywell	“ 14	1st “	
Roswell Ferguson	“ 27	1st “	
John Darling	“ 24	1st “	
Abner Spencer	“ 23	1st “	
Daniel Hare	“ 22	1st “	
Asa Danforth	“ 29	1st “	
Jasper Stark	“ 27	2nd “	broken front
Asa Burnham	“ 32	1st “	
Aaron Greeley	“ 33	1st “	

HALDIMAND—Continued

William Kelly	“ 34	2nd concession	
John Warring	“ 17	3rd “	
Asa Brentnall	“ 18	3rd “	
Christopher Winter	“ 20	3rd “	
Nathan Bradley	“ 16	3rd “	
Bays M. Eddy	“ 16	2nd “	broken front
Gaius Dean	“ 20	2nd “	“ “
Eraastus Dean	“ 17	2nd “	“ “
Peres Cooper	“ 13	2nd concession	
Joseph Lane	“ 23	3rd “	
Joseph Keeler	“ 1	1st “	broken front
Joseph Keeler	“ 2	2nd “	“ “
Joseph Keeler	“ 2	1st “	“ “
Joseph Keeler	“ 1	2nd “	“ “

63.

(Signed) Asa Danforth. (Signed) Aaron Greeley.

Signed and sworn 1st Sept., 1797, in Council. (Signed) J. Small.
(Signed) Peter Russell.

CRAMAHÉ

Eldridge Stanton	Lot 27	1st concession
Timothy Olcott	“ 1	2nd “
John Turner	“ 7	2nd “
David Turner	“ 23	1st “
David Turner, Junior	“ 22	1st “
Nathaniel Gosfield	“ 32	2nd concession
George Palmer	“ 31	2nd “
Palmer Crandell	“ 29	2nd “
Reuben Crandell	“ 28	2nd “
Henry Frint	“ 26	2nd “
Amos Beach	“ 25	2nd “
John Mix	“ 23	2nd “
Martin Frint	“ 21	2nd “
Barnabas McKeyes	“ 26	1st concession
John Ward	“ 33	1st “
Aaron Wallace	“ 30	1st “
Semion Winn	“ 16	5th concession
Abraham Winn	“ 17	5th “
Joseph Winn	“ 18	5th “
John Sickler	“ 19	5th “
William Clark	“ 20	5th “
John Heaviland	“ 18	6th concession
William Brunson	“ 20	1st “
John Frint	“ 22	2nd “
Elisha Alger	“ 33	3rd “

CRAMAHÉ—Continued

Lauson Bostwick	" 10	1st concession
Arnon Ives	" 19	2nd "
John Ogden	" 32	1st "
Cyrus Richmond	" 4	4th "
Jeremiah Scripture	" 6	1st "
William Obryon	" 19	1st "
James Richardson	" 1	1st "
Surfernus Dysert	" 3	1st "
Benjamin Richardson	" 4	1st "
James Bettis	" 7	1st "
Oliver Campbell	" 12	1st "
William Campbell	" 13	1st "
Stephen Campbell	" 16	1st "
John Campbell	" 14	1st "
Isaiah Hall	" 29	1st "
Joseph Keeler	" 35	1st "
Joseph Keeler	" 35	2nd "
John Belcher	" 2	2nd "
Obediah Simson	" 4	2nd "
John McKirman	" 34	2nd "
John Dowling	" 31	4th "
John Simson	" 7	4th "
Walter Worden	" 23	4th "
Sylvester Richmond	" 5	4th "
Enoch Weight	" 2	4th "
Gabrum Sprung	" 10	4th "
Jason Yearns	" 8	4th "
John Bartley	" 8	2nd "
Elisha Bristol	" 17	3rd [1st] "
Joel Merriman	" 24	1st "

55.

(Signed) Asa Danforth. (Signed) Aaron Greeley.

Signed and sworn 1st Sept., 1797, in Council. (Signed) John Small.
(Signed) Peter Russell.

David M. Rogers. Stating that he is desired by the inhabitants of the county of Prince Edward to represent that the concession lines in part of the said county have never been run and that part of the lands have been granted to persons who wish to settle and improve them but cannot find their lots until the concession lines are run. And praying that the concession lines of such part of the county of Prince Edward as has not been surveyed, may be run by the King's Surveyor and particularly in the township of Hallowell. Recommended to His Honour, that the prayer of this petition be granted, and it is further recommended to His Honour, that if any concession lines remain unsurveyed in the townships which were organized before the division of the province, directions be given to have them surveyed.

Joseph Chaplin, Moses Burgot, Joseph Ash and John Vaughan. Praying for 1200 acres of land each as agents for the original nominees of the township of Hamilton. The petitioners do not appear to have been four of the principal original nominees.

Adjourned.

2nd September, 1797.

Council Chamber at Newark.

Present: Hon. John Elmsley, Chief Justice; Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

Mary and Catherine Crawford, alias Grant. Praying for lands in addition to 200 acres which they have each received, as the daughters of Capt. Crawford of the Royal Yorkers. Recommended for 600 acres each inclusive as daughters of a captain.

Diedrick Arkland. Praying for lands as a military claimant. Recommended for 300 acres as a soldier.

Joseph Rosebush. A land board certificate. Recommended for 200 acres, if not granted before.

Sarah Playter. Praying for lands as a loyalist. Recommended for 400 acres as the daughter of a lieutenant.

Jesper Marsh. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months, or until he brings in his family.

George Leslie. Praying for lands as a settler. Recommended for 1200 acres, but no deed to issue till he is actually and *bona fide* settled in this province.

James Coffin. Praying for lands as a settler. Petitioner having assured the committee that he proposes to reside here and to improve lands, recommended for 1200 acres.

Allan Paterson. Praying for lands in consideration of his services during the American War. Recommended for 1200 acres, including former grants.

Barnabas Eddy. Praying for lands as a settler. Recommended for an appropriation of 200 acres for twelve months from this date.

Mary Cameron. Praying for lands in right of her late husband Murdo Cameron, who served during the American war as serjeant in the 84th Regiment and by whom she had three daughters. The proof is not sufficient to shew that Murdo Cameron was a serjeant, but his wife and children are recommended for 300 acres as jointenants.

Adjourned.

7th November, 1797.

Council Chamber, at York.

Present: Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

William Boukett. Praying for lands as a settler and a town lot in York. Recommended for 200 acres of land and a town lot in York.

Abel Stevens. Praying for the falls, on lot 2, 10th concession of Lansdowne, below the 3rd Gannanaque Lake, to erect iron works on. Referred to the Acting Surveyor General to report.

John Frederick Von Snell. Praying for lands as a military claimant. Petitioner can have no lands until he is discharged.

Gilbert Middach. Praying for lands as a loyalist. Recommended for 200 acres, if on the U.E. List.

John Dorin, Junior. Praying for lands as a loyalist. Recommended for 200 acres, if on the U.E. List.

Frances Munro. Praying for lands. Recommended for 400 acres as the daughter of a subaltern.

Barnard Emery. Praying to have his military lands, as a private, completed. Petitioner's discharge or a certificate from one of his officers must be produced.

William Richardson. Praying for lands as a loyalist. Recommended for 200 acres.

David Jones. Praying to have his late father's military lands, as lieutenant, completed and for 600 acres for himself, having served during the American war as a volunteer. The widow and children of Lieut. Jones are recommended for 2000 acres (including former grants to himself) and also including former grants to the widow. The children (if of age) are recommended for 400 acres each, including former grants to themselves, but exclusive of their share in the 2000 acres and exclusive of such lands as they have by descent or devise from their grandfather Benjamin.

Jonah Brown. Praying for lands in right of his late father as a military claimant. Petitioner has received all the lands he is entitled to.

Ebenezer Smith. Praying for lands as a settler. Recommended for 200 acres.

William Slye. Praying for lands as a settler. Petitioner being unknown and not a loyalist, must appear in person.

Samuel Peneck. Praying for lands in addition to 200 acres which he has received as a loyalist. To lie over for the alleged recommendation of the land board.

Isaac Lamb. Praying for 200 acres of land, in addition to 200 which he has received. Inadmissible.

Philip, Elias and Ann Dulmage. Praying for lands as the sons and daughter of a lieutenant. Recommended for 400 acres each as the children of a lieutenant.

Sarah Van Sicklen. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Stephen, John, Dyer and Peter Howard. Praying for lands as the sons of Ensign Mathew Howard. Recommended for 400 acres each, including former grants.

Elizabeth Howard. Praying for lands as the daughter of Capt. Brakenridge. Recommended for 600 acres as the daughter of a captain.

Philip Matteson. Praying for lands as a settler. Recommended for 200 acres.

Daniel Smith. Praying for lands as a settler. Recommended for 200 acres.

Thomas Hubbard. Praying for family lands. Petitioner is not entitled to family lands.

Isaac Lamb, Junior. Praying for lands as a settler. Recommended for 200 acres.

Abraham Clark. Praying for lands as a settler. Recommended for 200 acres.

Oliver Graham. Praying for family lands. To lie over for a certificate of the number of his children in the province before 1789.

Allen Curtis. Praying for lands as a settler. Recommended for 200 acres.

Abel Kilborn. Praying for lands as a settler. Recommended for 200 acres.

James Curtis. Stating that he has received a land board certificate which has not been filled up and praying for 200 acres of land as a settler. The certificate will be assigned, if produced.

Nathan Dayton. Praying for lands as a military claimant. Petitioner must produce his commission as an ensign, or his discharge as a serjeant.

Lois Wilson. Praying for lands as a loyalist. Recommended for 200 acres, if 21 years of age.

Mary Wright. Praying for lands as a loyalist. Recommended for 200 acres.

Nancy McLaren. Praying for lands as the daughter of a lieutenant. Recommended for 200 acres.

Mary Wright, Junior, alias Mary McLaren. Praying for lands as the daughter of a lieutenant. Recommended for 200 acres.

Nehemiah Avery. Praying for lands as a settler. Recommended for 200 acres.

James Richardson. Praying for family lands. Recommended for 150 acres family lands.

William Leahy, Senior. Praying for 200 acres of land in addition to 300 which he has received, for 200 in right of one of his sons who died in 1784 and for family lands for a wife and eight children, having only received 200 acres. To stand over for the usual certificate.

James Richardson. Praying for lands as a military claimant. Recommended for 1200 acres.

John, Robert and Elizabeth Leahy. Praying for lands as the sons and daughter of a loyalist. Recommended for 200 acres each.

Margaret Corbin. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

James Butler. Praying for lands as a military claimant. Petitioner has received all the lands he is entitled to.

Cornelius Smith. Praying for lands in addition to 200 acres which he has received as a settler. Petitioner has received all he is entitled to.

Benjamin Ruggles Munsell. Praying for lands in addition to 50 acres which he has received as a loyalist. Recommended for 200 acres, including former grants.

Michael Cook. Praying for lands in right of his wife Hannah, and his daughter Elizabeth Cook as loyalists. Petitioner must produce the usual certificate for family lands. His daughter's claim to lie over for the U.E. List.

James Finch. Praying for family lands, also praying that lot 22 in the 7th concession of Kitley (a reserved lot) may be granted to him, having cleared 10 acres thereon. Referred to the Surveyor General.

Dudley Day. A land board certificate. Recommended for 200 acres, if not granted before.

Jabez Barnum. A land board certificate. Recommended for 200 acres, if not granted before.

Samuel Weight. A land board certificate. Recommended for 200 acres, if not granted before.

John Price. Praying for lands as a military claimant and a town lot in York. Recommended for 200 acres as a subaltern, but no deed to issue until petitioner has resided 12 months from this date in the province and a town lot in York.

Henry Forrest. Praying for lands as a military claimant. To lie over till his family is in the province.

Hon. David William Smith. Praying for 1200 acres of land as one of the principal nominees of Pickering. Recommended.

Confirmed. (Signed) Peter Russell.

Adjourned.

8th November, 1797.

Council Chamber at York.

Present: Hon. John Elmsley, Chief Justice; Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

Elizabeth McNiel. Praying for lands as a loyalist. Recommended for 200 acres, if on the U.E. List.

Rice Honeywell. Praying to be confirmed in lot 14, 1st concession of Haldimand, on which he has been located by the nominees of that township. Referred to the Surveyor General to report.

William Clow. Praying for family lands. Recommended for 100 acres family lands.

Nathan Brown. A land board certificate. Recommended for 200 acres, if not granted before.

Gersham Wing. A land board certificate. Recommended for 200 acres, if not granted before.

Allen C. Wilmot. Praying for lands in addition to 400 acres which he has received as the son of a captain. Recommended for 600 acres, including former grants as the son of a captain.

Benjamin Kilburn. A land board certificate. Recommended for 200 acres, if not granted before.

Nathaniel Brown. A magistrate's certificate. Recommended for 200 acres, if not granted before.

John White. A land board certificate. Recommended for 200 acres, if not granted before.

Anna Wilson. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

John Wilson. A land board certificate. Recommended for 200 acres, if not granted before.

Daniel Johns. Praying for lands in addition to 200 acres which he has received. Recommended for 400 acres in addition to 200 acres.

Reuben Bacon. A land board certificate. Recommended for 200 acres, if not granted before.

Samuel Buell. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Clark Rice Parkins. A magistrate's certificate. Recommended for 200 acres, if not granted before.

Jean McLean. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Christina Hossack. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Robert McLean, for the heirs of Henry Clow. A land board certificate. Recommended for 200 acres, if not granted before.

James Crow. A land board certificate. Recommended for 200 acres, if not granted before.

Patty Bissell. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Jemimah Lemont. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Asa Landon, Junior. A land board certificate. Recommended for 200 acres, if not granted before.

Peter Gellairt. A land board certificate. Recommended for 200 acres, if not granted before.

Charlotte Sweet. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Caleb Henderson. A land board certificate. Recommended for 200 acres, if not granted before.

Richard Baxter. Praying for lands as a settler. Recommended for 200 acres.

Hezekiah Bull. Praying for lands as a loyalist. Recommended for 200 acres.

Hannah Kilburn. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Bemslee Peters. Praying for military lands as a captain. It does not appear that petitioner was a captain.

Daniel Dunham. Praying for 150 acres to complete his family lands and military lands as serjeant. Recommended for 150 to close all claims as a U.E. Loyalist.

Joseph White, Esq. Praying for 1000 acres of land in the Eastern district. Recommended for 1200 acres, including former grants as a magistrate.

Sophia Clow. Praying for lands as a loyalist. Recommended for 200 acres, if on the U.E. List.

James Henry. Praying for family lands and for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres, the certificate not sufficient for family lands.

William Fraser, of Coteaux du Lac. Praying for family lands and lands in right of his wife. The petitioner does not appear to reside in the province.

Joseph Tousley. Praying for lands as a settler. Recommended for 200 acres.

John Laird. Praying for lands as a loyalist. Recommended for 200 acres.

Eldad Jones. Praying for an addition to 100 acres of land which he has received as a settler. Recommended for 200 acres, including former grants.

John Loverin. Praying for lands as a settler. Recommended for 200 acres.

Isaac Hollingshed. Praying for a lot on Yonge street as a settler. Recommended for a lot on Yonge Street on the usual conditions.

Charles Jalin. Praying for lands as a military claimant. Recommended for 300 acres.

Joseph Gelly. Praying for lands as a military claimant. Recommended for 300 acres.

Pierre Protin. Praying for lands as a military claimant. Recommended for 300 acres.

Nicholas Bollard. Praying for lands as a military claimant Recommended for 300 acres.

Jaques Valerant. Praying for lands as a military claimant. Recommended for 600 acres.

Jean La Musique. Praying for lands as a military claimant. Recommended for 300 acres as a sailor.

James Jefferies. Praying for lands as a military claimant. Recommended for 300 acres as a sailor.

Bazil Rorison. Praying for a town lot in York. Recommended for a town lot in York.

Lieut. P. M. Fortier. Praying for family lands and a town lot in York. Recommended for 300 acres family lands and a town lot in York.

Edward Gahan. Praying for 100 acres of land in addition to 500 which he had received as a gunner and for a town lot in York. Recommended for a town lot in York. With respect to the 100 acres in addition, the Council Office will be searched for precedent.

John Lott, Junior. A magistrate's certificate. Recommended for 200 acres.

Philip Lott. A magistrate's certificate. Recommended for 200 acres.

Sarah Richardson. Praying for family lands. Recommended for 100 acres family lands.

Richard Lawrence. Praying for lands as a settler. Recommended for 200 acres.

Samuel Buell. Praying for 1700 acres of land in addition to 300 which his deceased father received as a pensioner. Proofs insufficient for 1700 acres, but a warrant may issue for 400 acres to the heir of Timothy Buell to complete a certificate for 700 acres.

Thomas Knowlton, Senior. Praying for lands as a settler. Recommended for 200 acres.

Mathew Howell. Praying for lands as a disbanded serjeant. Recommended for 100 acres. To entitle him to a serjeant's allowance, he must produce a certificate from the Surveyor General of Nova Scotia that he gave up the land he drew there.

Confirmed. (Signed) Peter Russell.

Adjourned.

11th November, 1797.

Council Chamber at York.

Present: Hon. John Elmsley, Chief Justice; Hon. John McGill, Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

John Cumming, of Kingston, merchant. Praying for lands. Recommended for 1200 acres.

Nathaniel Taylor, Esq., of Kingston. Praying for lands. Recommended for 1200 acres inclusive.

Michael Mahar. Praying for lands as a military claimant. Recommended for 300 acres.

James Richardson. Praying for a town lot in York. Recommended when he evinces a disposition to live therein.

Nicholas Lake. Praying for lands, as a loyalist, for himself and family, for various services performed during the American war. Recommended for 750 acres to close all claims.

Betsy Smith. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Richard Smith. Praying for family lands. Recommended for 100 acres family lands.

Phebe Lake. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Ashley. Praying for family lands and lands as a military claimant. Recommended for 550 acres to close all claims and including former grants.

A. Bell. Praying for a town lot in York. Recommended for a town lot in York.

James Elliott. Praying for a town lot in York. Recommended.

Alexander Galloway. Praying for a town lot in York. To lie over.

John Endicott. Praying for military lands as a corporal. Recommended for 400 acres.

Andrew Johnstone. Praying for a town lot in York. Recommended for a town lot in York.

Walter Sennott. Praying for lands as a settler and a town lot in York. Recommended for 200 acres and a town lot in York.

Alexander Chisholm. Praying for military lands as a captain. Recommended for 3000 acres inclusive as a captain.

Alexander Chisholm. Praying for lot 34 1st concession and broken front of Murray, in lieu of a lot which he has improved, and has been confirmed to another. Recommended for the lot prayed for if vacant, in lieu and part of the land he is entitled to.

Ann Moseley. Praying for lands in right of her deceased husband George Moseley. Ann Moseley recommended for 200 acres in right of her late husband.

Ephraim Jones. Praying for family lands. Recommended for 250 acres family lands.

Simeon Garritt. Praying for lands as a settler. Recommended for 200 acres.

Adjourned.

Confirmed in Council 20th Dec., 1797. (Signed) Peter Russell.

13th November, 1797.

Council Chamber at York.

Present: Hon. John Elmsley, Chief Justice; Hon. John McGill, Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

Nathaniel N. Tredwell, by his attorney Christopher Robinson. Praying to be heard respecting the boundary lines of the seigneurie of L'Orignal. Referred to the Acting Surveyor General.

Mary Blacker. Praying for lands as the daughter of a captain. Recommended for 600 acres as daughter of a captain.

John Walden Meyers. Praying for family lands. Recommended for 400 acres as family lands.

Anna Gilbert. Praying for lands as the daughter of a captain. Recommended for 600 acres as daughter of a captain.

Leonard W. Meyers. Praying for lands as the son of a captain. Recommended for 600 acres as son of a captain.

Elisha Olker. Praying to be put upon the U.E. List, praying for lands in right of his wife. Recommended that petitioner's name be entered on the U.E. List on the evidence of Capt. Meyers. No proofs are adduced to entitle his wife to lands.

Elizabeth Jones. Praying for lands. Recommended for 200 acres.

Jacob Wannamaker. A land board certificate. Recommended for 200 acres, if not granted before.

John Longwill. Praying for lands in addition to 100 acres which he has received as a settler and for lands in right of his wife as a loyalist. Recommended for 100 acres. His wife also recommended for 200 acres as U.E. Loyalist.

William Babcock. A land board certificate. Recommended for 200 acres, if not granted before.

John Babcock. A land board certificate. Recommended for 200 acres, if not granted before.

John Babcock, Junior. A land board certificate. Recommended for 200 acres, if not granted before.

Andrew Wannamaker. A land board certificate. Recommended for 200 acres, if not granted before.

Peter Wannamaker. A land board certificate. Recommended for 200 acres, if not granted before.

Huldah Cole, alias Babcock. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Mary German. Praying for lands as a loyalist. Recommended for 200 acres.

Stephen Gilbert. Praying for lands as a settler. Recommended for 200 acres.

Joshua Goldsmith. Praying for lands as a settler. Recommended for 200 acres.

John Henesey. Praying for lands as a settler. Recommended for 200 acres.

Abraham Semmons. Praying for lands as a loyalist. Recommended for 200 acres.

David Semmons. Praying for lands in addition to 100 acres which he has received as a loyalist. Recommended for 100 acres additional.

Cornelius Van Waters. Praying for lands as a settler. Recommended for 200 acres.

Cornelius Van Waters. Praying for a town lot in York. Recommended for a town lot in York.

Henry and Francis Wiss. Praying for lands as loyalists. Recommended for 200 acres each.

Julian Wiss, widow of John Wiss. Praying for lands in right of her late husband as a military claimant. Recommended for 250 acres family lands, if not granted before to her late husband.

William Marsh, Junior. Praying for lands as a settler. Recommended for 200 acres.

Peter Quackenbush. Praying for lands as a settler. Recommended for 200 acres.

Mary Rattan. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

John Soper. A land board certificate. Recommended for 200 acres, if not granted before.

Henry Smith. Praying for lands as a settler. Recommended for 200 acres.

Elisha Beman. Stating that he purchased two land board certificates, from Joseph Proctor, and Elizabeth Bouker, the former for 100, the latter for 200 acres of land, and praying that the deeds may issue in his own name. The lands for which the petitioners are recommended by the land board not having been assigned, the right cannot be transferred, therefore it must fully appear that Joseph Proctor and Elizabeth Bouker are living and have not received any lands before any can be granted to them or their transferee.

Caleb Purdy. A land board certificate. Recommended for 200 acres, if not granted before.

Archibald Chisholm. Praying for family lands. Recommended for 100 acres to close all claims.

Laurence Badgley. Praying for lands as a settler. Recommended for 200 acres.

Samuel Badgley. Praying for family lands. Recommended for 600 acres family lands.

Stephen Badgley. Praying for lands as a settler. Recommended for 200 acres.

Martin Frederick. Praying for lands as a loyalist. Recommended for 200 acres.

Conrod Frederick. Praying for family lands. Recommended for 250 acres family lands.

Stephen Halsted. Praying for lands as a settler. Recommended for 200 acres.

John Reed, of Thurlow. Praying for family lands. Recommended for 200 acres family lands.

Laurence Halsted. Praying for lands as a settler. Recommended for 200 acres.

William Reed, Junior. Praying for lands as a settler. Recommended for 200 acres.

William Reed, Senior. Praying for family lands. Recommended for 450 acres family lands.

Martin Rush, Senior. Praying for lands as a loyalist. Recommended for 200 acres.

Martin Rush, Junior. Praying for lands as a loyalist. Recommended for 200 acres.

Elisha Beman. Praying for lands as a settler. Recommended for 200 acres.

Isaac Blauvett. Praying for lands as a settler. Recommended for 200 acres.

William Cook. Praying for lands as a settler. Recommended for 200 acres.

Peter Crouter. Praying for lands as a settler. Recommended for 200 acres.

Thomas Dempsey. Praying for family lands and lands as a settler. Recommended for 400 acres, including family lands.

Martin Foster. Praying for lands as a settler. Recommended for 200 acres.

William Kelly. Praying for family lands. Recommended for 150 acres family lands.

Daniel Lawrence. Praying for lands as a settler. Recommended for 200 acres.

William Lownsberry. Praying for family lands. Recommended for 200 acres family lands.

Samuel Luscombe. Praying for family lands. Recommended for 250 acres family lands.

Angus McDonald, of Ameliasburgh. Praying for lands as a settler and in right of his wife as a loyalist. Recommended for 200 acres. His wife also recommended if on the U.E. List.

William McMillan. Praying for lands as a settler. Recommended for 200 acres.

Caleb Palmer. Praying for lands as a loyalist. Recommended for 200 acres.

John Booth Sellie. Praying for lands as a settler. Recommended for 200 acres.

Henry Simmons. Praying to have his military lands completed. Recommended for 300 acres, including former grants.

Joseph Walker. Praying for lands as a settler. Recommended for 200 acres.

Robert Wright. Praying for family lands. Recommended for 100 acres family lands.

Zadoch Thrasher. Praying for family lands. Recommended for 200 acres family lands.

Stillwill Willson. Praying for lot 32 on the east side of Yonge street and a town lot in York. Recommended if the lot prayed for is vacant and a town lot in York.

William Bedal. Praying for lands as a settler. Recommended for 200 acres.

Gradus Clute. Praying for lands as a settler. Recommended for 200 acres.

Francis Dixon. Praying to have his military lands as a private completed. Recommended for 200 acres to complete his military lands.

John Pacquette. Praying for lands as a settler. Recommended for 200 acres.

John Van Leaven. Praying for lands as a settler. Recommended for 200 acres.

John Mosure. Praying for additional lands as a loyalist. Recommended for 200 acres, including former grants.

Hannah Lockwood. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Caldwell. Praying for additional lands as a settler, for family lands and lands in right of his wife as a loyalist. Recommended for 200 acres to close all claims. His wife recommended for 400 acres as the daughter of a subaltern.

David Lockwood. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Rebecca Fraser. Praying for lands as a loyalist. Recommended for 400 acres as the daughter of a subaltern.

Michael Davy. Praying for lands for himself as a settler, and in right of his wife as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Solomon Ball. Praying for family lands and lands in right of his wife as a loyalist. Recommended for 200 acres family lands. His wife recommended for 200 acres.

Cornelius Van Leaven. Praying for lands as a settler. Recommended for 200 acres.

Isaac Asselstine. Praying for lands in addition as a loyalist. Recommended for 100 acres in addition.

George Havens. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Comar. Praying to have his military lands as a private completed. Recommended for 200 acres additional.

Daniel Walker. Praying for lands in right of his wife as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Cornelius Chatterson. Praying for lands as a settler. Recommended for 200 acres.

Thomas Falconer. Praying for military lands as a private. Petitioner must get a certificate from the Surveyor General of Lower Canada, that he has received no lands in that province. If he has not, he will have 300 acres here.

Joshua Booth, Esq. Praying for family lands, lands in addition and lands in right of his wife as a loyalist. Recommended for 350 acres to complete all claims. His wife recommended for 200 acres as a U.E. Loyalist.

George Miller. Praying for lands in addition as the son of a subaltern. Recommended for 200 acres in addition.

Silas Nichols. Praying for lands as a settler. Recommended for 200 acres.

John Taylor. Praying for family lands. Recommended for 100 acres family lands.

Charles Strider. Praying for lands as a settler. Recommended for 200 acres.

John Taylor. Praying for military lands as a corporal. Recommended for 400 acres, including former grants.

Christine Taylor. Praying for lands for herself and her three daughters Mary, Nelly and Christine, Junior as loyalists. Petitioner and her three daughters recommended for 200 acres each.

Elias Chatterson. Praying for lands as a settler. Recommended for 200 acres.

Jeremiah Loveless. Praying for lands as a settler. Recommended for 200 acres.

Andrew Bartels. Praying for lands as a settler. Recommended for 200 acres.

Deborah Van Scott. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Van Scot. Praying for family lands and to have his military lands as a private completed. Recommended for 200 acres to complete his military lands.

Joseph Thurbun. Praying for lands as a settler. Recommended for 200 acres.

Nathan Deukee. Praying for lands as a settler. Recommended for 200 acres.

Edward and Thomas Howard. Praying for lands as the sons of a lieutenant. Recommended for 400 acres each, including former grants as sons of a lieutenant.

Emerson Burley. Praying for lands as a settler. Recommended for 200 acres.

Alexander McLinnan. Praying for lands as a settler. Recommended for 200 acres.

Justles Bertles. Praying for lands as a settler. Recommended for 200 acres.

Mary Herkemer, executrix, and Thomas Markland, executor, to the last will and testament of Captain Henjoest Herkemer, deceased. Praying that the remainder of his military and family lands may be assigned to his children. The widow Herkemer is alone recommended for 200 acres to complete her family lands as surviving parent.

Phebe Deukee. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Stoughton. Praying for lands as a settler. Recommended for 200 acres.

Thomas Markland, Esq. Praying for lands as a magistrate. Recommended for 1200 acres inclusive as a magistrate.

Conrod Staker. Praying for lands as a settler. Recommended for 200 acres.

John William Clement. Praying for lands as a settler. Recommended for 200 acres.

William Fairfield, Senior. Praying for family lands. Recommended for 150 acres family lands.

Jonathan Fairfield. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Henry Staker. Praying for lands as a settler. Recommended for 200 acres.

Gasper Strope, a discharged soldier. Praying for a town lot in Kingston and lands in right of his wife as a loyalist. Recommended for a town lot in Kingston, and 300 acres as a soldier.

Sarah Clute. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sarah Shipman, alias Pennock. Praying for lands as a loyalist. Recommended for 200 acres.

Lydia Shipman, alias Row. Praying for lands as a loyalist. Recommended for 200 acres.

Ravina Shipman, alias Baxter. Praying for lands as a loyalist. Recommended for 200 acres.

Electa Landon, alias Barnet. Praying for lands as a loyalist. Recommended for 200 acres.

Rebecca Landon, alias Wing. Praying for lands as a loyalist. Recommended for 200 acres.

Rebecca Read, alias Tousley. Praying for lands as a loyalist. Recommended for 200 acres.

Lucy Kilburn, alias White. Praying for lands as a loyalist. Recommended for 200 acres.

Polly White, alias McLean. Praying for lands as a loyalist. Recommended for 200 acres.

Alexander Barnet. Praying for family lands. Recommended for 200 acres family lands.

Bartholomew Carley. Praying for family lands. Recommended for 100 acres family lands.

Thomas Freeman. Praying for family lands. Recommended for 200 acres family lands.

David Baldwin. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Henry French. Praying for family lands. Recommended for 200 acres family lands.

John Smith. Praying for family lands and to have his military lands as a serjeant completed. Recommended for 200 acres to close all claims.

Nathaniel Brown. Praying for family lands. Recommended for 400 acres family lands.

Thomas Wood. Praying for family lands. Recommended for 100 acres family lands.

Truelove Butler. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Chatterton. Praying for military and family lands. Recommended for 500 acres to close all claims.

Joseph Griffin. Praying for military lands as a private. Recommended for 300 acres inclusive as a soldier.

Benjamin Kilburn. Praying for family lands and to be confirmed in lot 29, 9th concession of Kitley. Recommended for 400 acres family lands. As to the lot prayed for, referred to the Surveyor General.

Mary Stevens, alias Story. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Abigail Stevens, alias Crippan. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Joseph Griffin. Praying for family lands. Recommended for 150 acres family lands.

Alexander Campbell. Praying to have his family lands completed. Recommended for 50 acres to complete his family lands.

David Hunter, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Wooley. Praying for family lands. Recommended for 300 acres family lands.

Archibald McLaren, son of Lieut. Peter McLaren, deceased. Praying to have his father's military and family lands completed. Recommended that 200 acres be granted to the wife and children of the late Lieut. McLaren as jointenants, and that 200 acres be granted to his widow as family lands.

Archibald McLaren. Praying for lands as the son of a lieutenant. Recommended for 400 acres as the son of a lieutenant.

Daniel Shipman, Junior. Praying for lands as a loyalist. Recommended for 200 acres inclusive.

Daniel Shipman, Senior. Praying for family lands. Recommended for 100 acres family lands.

John McLean, of Elizabethtown. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elijah Whitney. Praying for family lands. Recommended for 200 acres as family lands.

Mathew Wing. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Henry McLean. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

David Shipman. Praying for lands as a loyalist. Recommended for 200 acres inclusive.

Obediah Read. Praying for family lands. Recommended for 50 acres family lands.

Elizabeth Wickwire, alias Hotchkiss. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Lois Sherwood, alias Buel. Praying for lands as the daughter of a subaltern. Recommended for 400 acres as the daughter of a subaltern.

William Davis. Praying for family lands and lands as a loyalist. Recommended for 400 acres to close all claims.

Jonathan Buel. Praying for additional lands as a loyalist. Recommended for 400 acres, including former grants.

Bemslee Buel. Praying for family lands. Recommended for 150 acres family lands.

Phinehas Baldwin. Praying for family lands. Recommended for 150 acres family lands.

Amy Wing, alias Mott. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Robert McLean. Praying for family lands and for leave to exchange lot 6 4th concession Yonge which is swampy, for another and for 100 acres in addition. Petitioner may have one lot, but must send a certificate of the number of children he had in the province before 1789.

Adjourned.

Confirmed. (Signed) Peter Russell.

14th November, 1797.

Council Chamber at York.

Present: Hon. John Elmsley, Chief Justice; Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

William Cronkhite. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Donald McDonald. A land board certificate. Recommended for 200 acres additional.

Jean Cronkhite. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

John Adam Friermouth. A land board certificate. Recommended for 200 acres, if not granted before.

Jenny Miller, alias Van Camp. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Daniel Ferris. A land board certificate. Recommended for 200 acres, if not granted before.

Samuel Howland, Junior. A land board certificate. Recommended for 200 acres, if not granted before.

Eliezer Youmans. A land board certificate. Recommended for 200 acres, if not granted before.

Jeremiah Lapp. A land board certificate. Recommended for 200 acres, if not granted before.

Barbara McKenzie, alias McDonell. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Kenneth McPherson. A land board certificate. Recommended for 200 acres additional.

John Myneker. A land board certificate. Recommended for 350 acres additional.

John Doole. A land board certificate. Recommended for 200 acres, if not granted before.

Daniel Richards. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Anthony Badgley. A land board certificate. Recommended for 200 acres, if not granted before.

William Carson. A land board certificate. Recommended for 200 acres additional.

William Beneker. A land board certificate. Recommended for 200 acres additional.

Andrew Miller. A land board certificate. Recommended for 200 acres additional.

Joseph Hicks. A land board certificate. Recommended for 200 acres additional.

Henry Allice. A land board certificate. Recommended for 200 acres additional.

Ernest Clabboard. A land board certificate. Recommended for 200 acres additional.

William McKenzie. A land board certificate. Recommended for 200 acres additional.

Henry Bird. A land board certificate. Recommended for 200 acres additional.

Samuel Winterbottom. Praying for lands as a settler, and a town lot in Newark. Recommended for 200 acres and a town lot in Newark.

Bryer Bull. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elazarus Brewer. A land board certificate. Recommended for 200 acres, if not granted before.

George Wood. Praying for lands for himself and his children. Recommended for 600 acres as a surgeon, if his name is on the U.E. List. His children will receive 200 acres each as they come of age.

Toussant Belant. Praying for lands as a settler, and a town lot in Kingston. Recommended for 200 acres and a town lot in Kingston.

Gabriel Orser. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Adjourned.

16th November, 1797.

Council Chamber at York.

Present: Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

David Fleming. Praying for a town lot in York. Recommended for a town lot in York.

John Carr. Praying for lands as a settler. Recommended for 200 acres.

Paul Van Wickley. Praying for lands as a settler. Recommended for 200 acres.

Abraham Carley. Praying for lands as a military claimant. Recommended for 200 acres.

William Smith, of Sidney. Praying for family lands. On production of the annexed certificate, recommended for 300 acres family lands.

Daniel Masters. Praying for lands on the Carrying Place as a settler. Recommended for 200 acres, but whether on the Carrying Place or not referred to His Honour.

John Fleming. Praying for a town lot in York. Recommended for a town lot in York.

John Everit. Praying to be confirmed in a location of 1950 acres of land which he received on the west branch of Collin's creek in part of his military lands as a captain. Referred to the Acting Surveyor General.

Elizabeth La Mothe, alias Bellant. Praying for lands as the daughter of a captain. Not entitled.

James Taylor and James Anderson. Stating that they have purchased the east half of lot 12 in the 2nd concession of the township of Kingston and praying that the deed thereof may issue in their names. Recommended that the deed for the east half of 12, 2nd concession of Kingston issue to petitioners.

John Sager. Praying for 150 acres to which he is entitled for family lands and lands assigned to him by certificate. The certificate wanted.

John Charles Musculus. Praying for lands as a settler, and for a town lot in York. Recommended for a town lot in York, and if he proves an actual settler and after having built in the town, recommended for a farm lot.

Eleazar Farechild. Praying for family lands. Recommended for 200 acres family lands.

John Maybee. Praying for family lands and lands as a settler. Recommended for 550 acres, including former grants and to cover claims for family lands for a wife and 6 children.

Solomon Huff. Praying for family lands and to have his lands as a settler completed. Recommended for 100 acres for self to complete his own quota to 200 and 350 acres family lands.

Henry Spencer. Praying for family lands. Recommended for 200 acres family lands.

Solomon Huff, Junior. Praying to have his lands as the son of a subaltern completed. Recommended for 200 acres to complete 400 acres as the son of a subaltern.

John Huff. Praying for family lands. Recommended for 200 acres family lands.

Lewis German. Praying for lands as a loyalist. Recommended for 200 acres.

Jacob German. Praying for lands as a loyalist. Recommended for 200 acres.

William Albertson. Praying for a town lot in Kingston. Recommended for a town lot in Kingston upon condition of immediate improvement.

Mary Vent. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Ferris. Praying for lands in right of his wife as a loyalist, for family lands, and to have his military lands as a volunteer completed. Recommended for 100 acres to complete 400 as a volunteer, 50 acres family lands, and 200 for his wife a U.E. Loyalist.

Alexander Dunbar. Praying for lands as a military claimant. Recommended for 300 acres as a military artificer during the war.

Isaac Orser. Praying to have his military lands as a volunteer completed. Recommended for 300 acres to complete 400 acres as a volunteer.

Mary Cass. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist. [Marginal note—Now Hawley, daughter of Josiah Cass.]

Robert Graham, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Badgely, alias Atkinson. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Robert Graham. Praying to have his military and family lands completed. Recommended for 150 acres to complete 700 acres, being his quota of 500 as serjeant, and 200 acres family lands.

Mahlon Knight. Praying for family lands. Recommended for 100 acres family lands.

Cornelius Knight. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Isaac Knight. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christian Abrahams. Praying for family lands. Recommended for 50 acres family lands.

John Asselstine. Praying for family lands. Recommended for 100 acres family lands.

Andrew Miller. Praying for family lands. Recommended for 100 acres family lands.

John Shibley. Praying for family lands. Recommended for 100 acres family lands.

Elizabeth Van Order, alias Burnet. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Ann McGuin, alias Van Order. Praying for lands as the daughter of a captain. Recommended for 600 acres as the daughter of a captain.

Jacob Powley. Praying for family lands. Recommended for 100 acres family lands.

Peter Asselstine, Senior. Praying for family lands. Recommended for 100 acres family lands.

Ashel Bradshaw. Praying for additional lands as the son of a lieutenant. Recommended for 100 acres to complete his lands to 400 acres as the son of a lieutenant.

James Bradshaw. Praying for additional lands as the son of a lieutenant. Recommended for 100 acres to complete his lands to 400 acres as the son of a lieutenant.

Amy Smith, alias Lapp. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jemima Sloot, alias Rattan. Praying for additional lands as the daughter of a lieutenant. Recommended for 200 acres in addition to 200 to complete her lands to 400 acres as the daughter of a lieutenant.

Peter Rattan. Praying for additional lands as the son of a captain. Recommended for 300 acres in addition to 300 to complete his lands to 600 acres as the son of a captain.

John Stuart. Praying to have his military lands as a private completed. Recommended for 300 acres, including former grants.

Lauchlin McIntosh. Praying to have his military lands as a private completed. Recommended for 300 acres, including former grants.

Andrew Rush. Praying to have his military lands as a private completed. Recommended for 200 acres to complete his military lands to 300 acres.

Hugh Campbell. Praying for military lands as a corporal. Recommended for 400 acres as a corporal.

Josiah Hern. Praying for family lands. Recommended for 50 acres family lands.

William Ransier. Praying to have his military lands as a private completed. Recommended for 100 acres in addition to 200 to complete his military lands.

William Sheriff. Praying for military lands as a private. Recommended for 300 acres as a soldier.

Ann Smith, alias Yeomans. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Lieut. David Brass. Praying to be confirmed in lots 28 and 29 in the front concession of Elizabethtown on which he has made improvements. Petitioner recommended for the lots prayed for if they are vacant and the quantity contained in them does not exceed his military allowances.

Peter Miller. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Kirby. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Garret Miller. Praying for family lands and to be allowed to exchange 400 acres of land on which he has been located in Loughborough, which are unfit for cultivation. Petitioner may exchange his lands for others. The family lands not established.

John Crawford. Praying to have his military lands as a serjeant completed. Also praying for family lands. Petitioner recommended for 500 acres as a serjeant exclusive of the family lands he may be entitled to by Mr. Motz's certificate, namely 100 acres.

Peter McPherson. Praying for family lands. Recommended for 50 acres family lands.

Elizabeth Powley, alias Albertson. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Philip Pember. Praying for family lands and military lands as a corporal. Recommended for 400 acres as a corporal and 300 acres family lands, including former grants.

Peter Christie. Praying for lot 10 on the south side of the Carrying Place between the head of the bay of Quinte and Lake Ontario. The petitioner may have 100 acres in addition but not on the Carrying Place.

Eve Grass, alias Wartman. Praying for lands as the daughter of a captain. Recommended for 600 acres as the daughter of a captain.

David Bradshaw. Praying for half of lot 20, 5th concession of Fredericksburg. Recommended for the half of lot 20, 5th concession, Fredericksburg.

Anthony McGuin. Praying for lands as the son of a captain. Recommended for 600 acres as the son of a captain, including former grants.

Mary Amey, alias Davy. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Davy. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Richard Freeman. Praying for military lands as a private. The petitioner must produce a certificate from the lower province that he has not drawn his lands therein.

Conrod Orbele. Praying to have his military lands as a private completed. Recommended for 100 acres to complete his military lands to 300 acres.

Mary Purdy, widow of Gilbert Purdy. Praying for family lands and lands in her own right. Recommended for 200 acres for herself and 350 acres family lands, or for so much thereof as she may be able to establish her claims for by affidavits.

Anthony De Mille. Praying for lands as a loyalist, also for family lands. Recommended for 200 acres for himself, if not granted before. Certificate wanted for family lands.

Jeremiah Lapp. Praying for family lands and to have his military lands as a private completed. Recommended for 300 acres, including former grants. Certificate wanted for family lands.

James Johnson. Praying for military lands as a serjeant. Discharge or certificate to be produced.

Elizabeth Vandebarrack, alias German. Praying for lands as a loyalist. Recommended for 200 acres if on the U.E. List. The warrant not to issue till that is ascertained.

Christian Asselstine, alias Davy. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Ally Meyers, alias Van Alstine. Praying to have her lands completed as the daughter of a field officer. Recommended for 600 acres in addition to 200 to make up 800 acres as the daughter of a field officer.

Daniel Fare. Praying for a lot of land at the north end of the fifth concession of the township of Kingston. Recommended for 100 acres to complete his lands to 200 acres. The place prayed for must be referred to the Surveyor General's department.

Jane Thompson, alias Milton. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist, if on the List.

John Milton. Praying for lands as a settler. Recommended for 200 acres, including former grants.

Mary M. Mattice, alias Brass. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Price. Praying for military lands as a private. Heard evidence hereupon and recommended for 300 acres, including former grants.

Agnes Miller. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Young. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Ryckman, alias German. Praying for family lands and lands as a loyalist. Recommended for 100 acres family lands to be granted to John German and 200 acres for his wife, if on the U.E. List, but no warrant to issue till that is ascertained.

Jacob Dulmage. Praying to have his military lands as a private completed. Recommended for 200 acres to complete his military lands to 300 acres.

Peter Burgart. Praying for lands as a settler. Recommended for 600 acres, having a wife and 6 children.

His Honour the President came into Council, confirmed the foregoing petitions and the following were read.

William Dummer Powell, Esq. Praying for a front town lot in York. Ordered that the vacant front lot asked for by Mr. Justice Powell be assigned to him.

Margaret Leake. Praying for military lands in right of her deceased husband a reduced field officer. The petitioner not being resident or even actually present in this province the council is sorry they cannot comply with the prayer of this petition, it being contrary to the practice of this board to grant lands to persons resident in England.

Samuel Smith. Praying for 100 acres of land in addition to 100 which he has received and for 350 acres family lands for a wife and six children. Recommended for 100 acres in addition to make up 200 acres. Certificate wanted for family lands.

Adjourned.

17th November, 1797.

Council Chamber at York.

Present: Hon. John Elmsley, Chief Justice; Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

Leany Loft, alias Markel. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Jacob Banter. Praying for lands as a settler. Recommended for 200 acres.

Abraham Banter. Praying for lands as a settler. Recommended for 200 acres.

Hugh Earl. Praying for 2000 acres of land as a military claimant. The petitioner is not entitled to any specific grant of land, the committee note that he has already been indulged with 1200 acres.

Nancy McLaren. Praying for lands as the daughter of a lieutenant. Read again and proof being adduced that the petitioner's father is a lieutenant, recommended for 400 acres, including former grants.

Augustus White. Praying for lands as a settler and a town lot in York. Recommended for a town lot in York, but the petition must lie over as to the lands till August next.

Jacob Clayton. Praying for lands as a settler and a town lot in York. Petitioner may have 200 acres whenever he produces a certificate that his children are in the province.

Mary Wright, alias McLaren. Praying for lands as the daughter of a lieutenant. Read again and evidence being taken that petitioner is the daughter of a lieutenant recommended for 400 acres, including former grants.

Shivers Cozens. Praying for lands as the son of a captain. Petitioner recommended for 600 acres as the son of a captain but no warrant to issue until after next June.

James Kilburn. Praying for lands as a settler. Recommended for 200 acres as a settler.

Isaiah Van Order. Praying for lands for himself and his wife as loyalists. Recommended for 200 acres and wife for 200 acres as a U.E. Loyalist.

Sarah McCord, alias Barton. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Daniel Richards. Praying to have his lands completed as the son of a subaltern. Recommended for 200 acres in addition as the son of a subaltern.

John Cannon. Praying for family lands and lands as a loyalist. Recommended for 200 acres in addition and 100 acres family lands.

Barnabas Day, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist, if of age.

William Storm. Praying for lands as a loyalist. Recommended for 200 acres.

Owen Richards. Praying for lands as the son of a subaltern. Recommended for 200 acres as the son of a subaltern.

John Richards, Junior. Praying for lands in addition to 200 acres as the son of a subaltern. Recommended for 200 acres in addition as the son of a subaltern.

James Latham. Praying for a town lot in Kingston and that His Majesty's deed for 2000 acres may issue to him free of every expence or fee, as a loyalist. Recommended for a town lot in Kingston upon condition of immediate improvement. If the petitioner has taken the necessary steps to get himself put on the U.E. List by the magistrates the other part of his petition is already answered.

Samuel Way. Praying for lands as a settler. Recommended for 200 acres.

Roeloff Clark. Praying for family lands. Recommended for 250 acres family lands.

Francis Cain. Praying for lands in addition as a settler and a town lot in Kingston. Recommended for 100 acres in addition, and a town lot in Kingston upon condition of immediate improvement.

Samuel Sherwood. Praying for military lands as a subaltern. Recommended for 1200 acres, including former grants as a magistrate. Further proof must be adduced to substantiate his claim as a subaltern.

Jemima Stowbridge. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Ebenezer Washburn. Praying for family lands and lands as an assistant commissary. Certificates wanted.

James Robinson. Praying for the water lot in front of lot 22 in the town of Kingston. Referred to the Acting Surveyor General to report.

Brittain Guinup. Praying to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier.

Thomas Plummer. Praying for a lot of land on Indian point near Kingston to erect a wind mill on. Referred to the Acting Surveyor General to report.

Abel Gates. Praying for lands as a settler. Recommended for 200 acres.

John Spiers Waters. Praying for a town lot in Kingston. Recommended for a town lot in Kingston, upon condition of immediate improvement.

John McDonald. Praying to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier.

John Leonney. Praying for lands as a settler and for lands in right of his wife as a loyalist. Recommended for 200 acres and wife recommended for 200 acres if on the U.E. List.

John Burnet. Praying for lands as a military claimant. Recommended for 600 acres having defended the block house.

Thomas Sparham, Junior. Praying for lands as a loyalist. Recommended for 400 acres as the son of a staff officer.

Hannah Gode. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Bryant. Praying for lands as a settler and a town lot in Kingston. Recommended for 200 acres and a town lot in Kingston upon condition of immediate improvement.

William McLean. Praying that the deed for lot 1, the half of lot 2 on the west side of the Grand river Cataraqui with a small island, which he purchased from Mary McLean, may issue in his name. Recommended that the deed for the within mentioned land issue to petitioner.

George Buck. Praying for lands as a settler and a town lot in Kingston, also for lands in right of his wife as a loyalist. Recommended for 200 acres and 200 acres to his wife as a U.E. Loyalist also a town lot in Kingston to petitioner on his making immediate improvement.

William Robins. Praying for lands as a loyalist. Recommended for 600 acres as a merchant, including former grants.

Nicholas Herkemer. Praying for lands as the son of a captain. Recommended for 600 acres as the son of a captain.

Mathew and Daniel Howe. Praying for lands as loyalists. Recommended for 200 acres each.

Arthur Yeomans. Praying for lands as a loyalist. Upon the information of the clerk of the peace recommended for 200 acres.

Elizabeth Babcock, alias Ransier. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

James Rankin. Praying for a town lot in Kingston. Recommended for a town lot in Kingston upon condition of immediate improvement.

Henry Cassadey. Praying for lands as a loyalist. Recommended for 200 acres.

Seth Renny. Praying for lands as a settler. Recommended for 200 acres.

James Bennet. Praying for military lands as a boatswain. Recommended for 500 acres to cover all his claims, including former grants.

Redford Crawford. Praying for lands as the son of captain and for a town lot in Kingston. Recommended for 600 acres as the son of a captain, if of age and a town lot in Kingston.

Joseph Hicks. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres if it appears she is entitled by the U.E. List.

Robert Wilkins. Praying for lands for his three children Ann, Sarah and Robert Charles Wilkins. Petitioner is recommended for family lands to the extent set forth in Mr. Motz's certificate. And Ann the married daughter recommended for 600 acres as the child of a captain, including former grants to her. The other children are not yet of age.

Titus Fitch. Praying for lands as a loyalist. Recommended for 200 acres.

Sheldon, Martin, Russell and Davis Hawley. Praying for lands as the sons of a captain. Recommended for 600 acres each as the sons of a captain.

John Warner. Praying for family lands. Recommended for 150 acres family lands.

Patience Spencer, widow of Hadeley Spencer, deceased. Praying for family lands. Recommended for 200 acres family lands.

Elijah Grooms. Praying for a town lot in Kingston. Recommended for a town lot if not already granted.

Joseph Allen. Praying for a lot of land on the Indian point near Kingston. Referred to the Acting Surveyor General's department.

James Robertson. Praying for a town lot in Kingston. Recommended for a town lot in Kingston upon condition of immediate improvement.

William Yorex. Praying for lands for himself and his wife as loyalists. It does not appear that the petitioner is entitled to more than 200 acres. The wife recommended for 200 acres if on the U.E. List. [Marginal note—daughter of Arthur Yeomans.]

Mary Dulyea, alias Orser. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Charlotte Purdy, alias Harkimer. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jesse Cole. Praying for lands as a settler. Recommended for 200 acres.

John McLaughlin. Praying to have his name enrolled on the U.E. List. The petitioner should have applied to the justices in their sessions for the benefit he prays for. The proofs adduced to the Council are not sufficient to admit the petitioner to the admission of a U.E. Loyalist.

George Buck, Junior. Praying for a town lot in Kingston. Recommended for a town lot in Kingston, upon condition of immediate improvement.

John Yourex. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Lucretia Plummer. Praying for lands as a loyalist. Proofs being adduced of petitioner's being entitled by the U.E. List, recommended for 200 acres.

John Waters. Praying for lands in addition to 138 acres which he has received. Recommended for 200 acres in addition to the broken lot he has received.

Edward Walker. Praying for lands for himself as a settler, and in right of his wife as a loyalist. Recommended for 200 acres, and 200 for his wife if she be entitled by the U.E. List.

Barnabas Wartman. Praying for lands as a loyalist. Proofs being adduced of age, behaviour and competency, recommended for 200 acres.

Lewis Day. Praying for lands for himself and his wife as loyalists. Recommended for 200 acres as a U.E. Loyalist and petitioner's wife as a U.E. Loyalist.

Samuel and Ann McKay. Praying for lands as the children of a captain. Recommended for 600 acres each as the children of a captain.

George Lucas. Praying that the deed for lot 21 in the 5th concession of Fredericksburg, may issue in his name, being the only heir of the late Amos Lucas to whom the said lot had been granted, also praying for lands as a loyalist. The consent of the widow of Amos Lucas father of the petitioner being produced, recommended that the deed for half lot 21, 5th concession of Fredericksburg issue to petitioner who is also recommended for 200 acres as a U.E. Loyalist.

Josette Merrit, widow of Lieut. Merrit. Praying that the residue of her late husband's military lands may issue to her son Joseph Merrit. Recommended that 1200 acres, including former grants be granted to Josette and Joseph Merritt in right of their deceased husband and father.

John Edgar. Praying for lands as a military claimant, having been wounded in a block house attacked by General Wayne. Recommended for 600 acres inclusive as a block house man.

Laurence Herkimer. Praying for lands as the son of a captain. Recommended for 600 acres inclusive as the son of a captain.

Pierre Lonie. Praying for lands as a settler. Recommended for 200 acres.

Robert Wilkins. Praying for military lands as a captain. Evidence being produced which satisfied the board that petitioner had a commission of captain of Associated Loyalists during the late war, recommended for 3000 acres (inclusive) as a captain.

Isaac Hicks. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Lewis Hicks. Praying for family lands. Recommended for 100 acres family lands.

Jacob Storms. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Gilbert Storms. Praying for family lands. Recommended for 100 acres family lands.

John Grass. Praying for lands as the son of a captain. Recommended for 600 acres as the son of a captain.

Henry Storms. Praying to have his military lands as a private completed. Recommended for 100 acres in addition as a soldier.

Robert Clark. Praying for lands for himself, for his wife and for his children. Recommended for 1200 acres as a magistrate to cover all claims, including family lands.

Mary Grass. Praying for lands as the daughter of a captain. Recommended for 600 acres as the daughter of a captain.

Thomas Varty. Praying for lands as a loyalist. Recommended for 200 acres.

Hannah Clement, alias Frelick. Praying for family lands and lands as a loyalist. Petitioner's husband recommended for 50 acres family lands. Petitioner recommended for 200 acres as a U.E. Loyalist.

Stephen Boice [Marginal note—Buis.] Praying for family lands. Recommended for 100 acres family lands.

Margaret Howe. Praying for family lands. Recommended for 150 acres family lands.

Capt. Michael Grass. Praying for family lands and lands for his son Daniel. Recommended for 50 acres family lands to petitioner and petitioner's son Daniel recommended for 600 acres as the son of a captain if resident in the province.

David Jackson. Praying to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier.

John Sharp, Junior. Praying for lands as a military claimant. Recommended for 400 acres as a volunteer and the son of a subaltern.

John Freilick. Praying for lands for himself and his wife as loyalists. Petitioner recommended for 200 acres and 200 to his wife as a U.E. Loyalist.

Peter Grass. Praying for lands as the son of a captain. Recommended for 600 acres as the son of a captain.

Christopher Freilick. Praying for additional lands as a settler, for family lands and lands in right of his wife as a loyalist. Recommended for 100 acres family lands and 200 acres for his wife as a U.E. Loyalist.

Weldon Walker. Praying for family lands and lands for his wife. Recommended for 200 acres family lands.

Jehiel Hawley. Praying for lands in right of his wife as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Harman Saa. Praying to have his military lands as a private completed and for lands in right of his wife as a loyalist. Recommended for 100 acres in addition as a soldier and 200 acres for his wife a U.E. Loyalist.

Peter Dayley. Praying for family lands and to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier and 100 acres family lands.

Martin Frelick. Praying for family lands. Recommended for 50 acres family lands.

Jacob Miller, a reduced adjutant. Praying for family lands and lands for his wife. Recommended for 50 acres family lands.

Nazareth Hill. Praying for family lands and military lands as a private. Recommended for 300 acres as a soldier. The certificate for family lands insufficient. Petitioner's agent stating he was in the block house when attacked by General Wayne, prays he may be admitted to have time to establish his claim. The committee see no objection to his offering any certificate of service.

Daniel Stretch. Praying to be confirmed in a town lot he occupies in Kingston. Recommended for confirmation if vacant.

Stephen Fairfield. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Benjamin Fairfield. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Fairfield, Junior. Praying for additional lands as a loyalist. Recommended for 100 acres additional as a U.E. Loyalist.

Jeptha Hawley. Praying for military lands as a captain. Recommended for 3000 acres as a captain, including 950 acres formerly granted as such.

(Some other proofs wanted before the petitioner can secure the portion of a captain. Signed P. R.)

Jacob Gordonier. Praying to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier.

Henry Gordonier. Praying for family lands and to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier and 100 acres family lands.

Christopher Lake. Praying for lands for himself as a loyalist, and for lands for his wife and family. Certificate insufficient for family lands. Petitioner himself recommended for 200 acres.

John Lake. Praying for family lands. Recommended for 200 acres family lands.

James Lake. Praying for family lands and lands for himself as a loyalist. The certificate for family lands insufficient. Petitioner himself recommended for 200 acres.

Peter Freilick. Praying for family lands. Recommended for 100 acres family lands.

Collin McKenzie. Praying to have his military lands as a private completed and for lands in right of his wife as the daughter of a subaltern. Recommended for 200 acres in addition as a soldier and 400 acres for his wife as the daughter of a subaltern.

William Walker. Praying for family lands. Recommended for 300 acres family lands.

John Sharp. A land board certificate. Recommended for 200 acres additional.

Francis Pruyn. A land board certificate. Recommended for 200 acres, if not granted before.

Jacob Van Valkenburgh. A land board certificate. Recommended for 200 acres, if not granted before.

David Jackson. A land board certificate. Recommended for 200 acres additional.

Cornelius Sharp. A land board certificate. Recommended for 200 acres additional.

John C. Vasburg. A land board certificate. Recommended for 200 acres, if not granted before.

Elizabeth Babcock. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Samuel Babcock. A land board certificate. Recommended for 200 acres, if not granted before.

Unice Earheart. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Elias Huffman. A land board certificate. Recommended for 100 acres additional.

John Cornelious. A land board certificate. Recommended for 200 acres additional.

Abraham Defoe. A land board certificate. Recommended for 100 acres additional.

Nicholas Woodcock. A land board certificate. Recommended for 200 acres, if not granted before.

James Carscallen. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Nabe Carscallen, alias Brisco. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

George Carscallen. A land board certificate. Recommended for 200 acres additional.

Catherine Dimond. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Ann Bell, alias Carscallen. A land board certificate. Recommended for 200 acres as a U.E. Loyalist.

John Vosburg. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres as a U.E. Loyalist.

John A. Freymouth. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Ann Stoughton, alias Gray. Praying for lands as a loyalist. Recommended for 200 acres, if a U.E. Loyalist.

Amos Martin. Praying to have his lands completed to 300 acres. Recommended for 200 acres in addition to complete 300 acres stated his due as per Governor Hamilton's certificate exhibited to the committee.

Philip Hartman. Praying for lands in right of his wife as a loyalist. Petitioner's wife recommended for 200 acres as a U.E. Loyalist.

James Dawson. Praying for family lands and military lands as a serjeant. Recommended for 300 acres inclusive as a soldier but other proofs wanting.

David Badcock. Praying for military lands as a captain having served during the American war under Major Ward. The whole number in the block house under Capt. Ward did not exceed one hundred men and I do not recollect any other Captain besides Ward. But if others were appointed, they should produce Sir Henry Clinton's or Sir Guy Carleton's commission.

(Signed) P. R.

Henry Finkle. Praying for military lands as a corporal. Petitioner has received all the land he is entitled to.

Mary Phillips. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Hannah McDougall. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist. [Marginal Note—Wife of Justus Bartles and daughter of Peter McDougall.]

Isaac Snyder. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sarah Tindall, alias Edgar. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary McDougall, alias Yarnes. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Boice. Praying for family lands. Recommended for 200 acres family lands.

Jacob Hesse. Praying for family lands. Recommended for 100 acres family lands.

Henry Davy. Praying for family lands. Recommended for 100 acres family lands.

Thomas Jackson. Praying to have his military lands as a private completed. Recommended for 300 acres inclusive as a soldier.

Lieut. Guisbert Sharp. Praying for family lands. Recommended for 250 acres family lands.

Elizabeth Stacker, widow. Praying for lands for herself and her daughter. The daughter of petitioner recommended for 200 acres.

William Cottier. Praying for lands as a military claimant. Recommended for 500 acres inclusive.

Varnandus Vannest. Praying for lands as a settler. Recommended for 200 acres.

Andrew Denyke. Praying for family lands. Recommended for 50 acres family lands.

James Booker. A land board certificate. Recommended for 200 acres, if not granted before.

Adjourned.

Confirmed. (Signed) Peter Russell.

18th November, 1797.

Council Chamber at York.

Present: Hon. John Elmsley, Chief Justice; Hon. John McGill, Hon. David William Smith, Speaker of the Lower House.

Read the following petitions:

Margaret Richards, alias Spencer. Praying for a town lot in Kingston and lands as the daughter of a subaltern. Recommended for 400 acres as the daughter of a subaltern and a town lot of the usual size in Kingston upon condition of immediate improvement.

Hazelton Spencer. Praying for family lands and to have his town lot in Kingston augmented to an acre lot. Recommended for 100 acres as family lands. The particular situation of the acre prayed for must be described before that part of the petition can be considered.

Job Lodor. Praying for a town lot in York. Recommended for a town lot in York upon condition of immediate improvement.

Nicholas Woodcock. Praying for lands as a settler. Recommended for 200 acres.

John Leonard. Praying for lands as a military claimant, and in compensation for property taken from him by the rebels during the American contest. The committee not being a board of compensation for losses cannot accede to the extent of the petitioner's prayer, but they recommend him for 300 acres on his becoming a settler.

Alexander Fisher. Praying for a town lot in Kingston. Recommended for a town lot in Kingston upon condition of immediate improvement.

Nicholas Hagerman. Praying for a town lot in Kingston. Recommended for a town lot in Kingston upon condition of immediate improvement.

Nathaniel Lines. Praying to have his lot in Kingston enlarged. The committee see no objection to His Honour's indulging Mr. Lines with a town lot, so as not to exceed the size of those most generally granted in the town of Kingston.

Catherine Way, alias Pine. Praying for lands as a loyalist. Recommended for 200 acres.

Catherine Rose. Praying for lands as a loyalist. Recommended for 200 acres.

Samuel Ellerbeck. Praying to have his military lands as a subaltern completed. Recommended for 1150 acres to complete his lands to 2000 acres as a subaltern, in consequence of the precedents adduced and upon the recommendation of the land board.

Agnus Taylor, widow of Serjeant Taylor. Praying for family lands. Recommended for 150 acres family lands as surviving parent.

John Lovelle. Praying for military lands as a private. Recommended for 300 acres as a soldier.

John Moore. Praying to have his military lands as a serjeant completed. Also praying for family lands. Recommended for 300 acres in addition as a serjeant. Certificate for family lands wanting.

Elazarus Brewer. Praying for lands in addition as a settler. The committee cannot recommend the granting of additional lands to persons of the petitioner's description but upon very especial occasions.

Jaque Valrant. Praying for lands as a military claimant. Recommended for 400 acres.

Alexander Clark. Praying for lands in addition to those received as a serjeant. Recommended for 1200 acres, including former grants as a magistrate.

Michael Defoe. Praying for lands in addition as a loyalist. Recommended for 100 acres in addition.

John, Abraham and Daniel Defoe. Praying that their late father's military lands as a captain may be assigned to them. Mr. Defoe having died in Lower Canada his heirs cannot have claim on this province for any lands he formerly might have been considered entitled to.

Susannah Smith, alias Lucas. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

George Charters. Praying for lands as a loyalist. Certificate of a U.E. Loyalist wanting but recommended for 200 acres if on the U.E. List. The father's discharge from a provincial corps having been produced.

Daniel Fraser. Praying for lands as a magistrate. Recommended for 1200 acres, including former grants as a magistrate.

Mary Prindle, alias Woodcock. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Casper Bower. Praying to have his military lands as a corporal completed. Recommended for 150 acres in addition as a corporal.

Philip Smith. Praying to have his military lands as a private completed. Recommended for 100 acres in addition as a soldier.

Jane Anderson. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Coughnutt. Praying to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier.

Henry Loucks. Praying to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier.

William Scharmahorn. Praying for lands as the son of a subaltern. Recommended for 400 acres as the son of a lieutenant.

James Carscallen. Praying to have his military lands as a serjeant completed. Recommended for 100 acres in addition as a serjeant.

Thomas Wager. Praying to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier.

Hannah Frelick, alias Smith. Praying for lands as a loyalist. Recommended for 200 acres if on the U.E. List.

James Robins. Praying for military lands as a captain, for family lands, and lands for his wife. The petitioner must produce further vouchers to establish the claim he sets up for 3000 acres, as well as for his wife and family lands.

Jean Coughnutt, alias Kellar. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Andrew Denyke. Praying for a town lot in Kingston. Recommended for a town lot in Kingston, upon condition of immediate improvement.

Harmanus Larway. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jasin Harnes. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sarah Forsyuer, alias Parks. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Hannah Anderson, alias McGrath. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elisha Phillips. Praying to have his military lands as a serjeant completed. Recommended for 200 acres in addition as a serjeant.

Wate Wright. Praying to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier.

George Carscallen. Praying for additional lands as the son of a subaltern. Recommended for 100 acres in addition as the son of a lieutenant.

Luke Carscallen. Praying for family lands and to have his military lands as a serjeant completed. Recommended for 100 acres in addition as a serjeant. The certificate for his family lands is wanting.

John Carscallen. Praying to have his military lands as a serjeant completed, also praying for family lands. Recommended for 100 acres in addition as a serjeant, and 100 acres family lands.

George Murdoff, Senior. Praying to have his military lands as a serjeant completed. Recommended for 100 acres in addition as a serjeant.

Joel Prindle. Praying to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier.

William Thompson. Praying to have his military lands as a private completed. Recommended for 200 acres in addition as a soldier.

Amos Richardson. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Darius Harnes. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Ann Bell, alias Carscallen. Praying for lands as the daughter of a subaltern. Recommended for 400 acres as the daughter of a lieutenant.

Henry Richardson. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Robert Buchannan. Praying for lands as a settler. Recommended for 200 acres, upon his becoming an actual settler in the province.

Oliver Church. Praying for lands as a military claimant. Recommended for 400 acres as a volunteer and son of a lieutenant.

Isabel Curtis, alias Johnston. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Brown. Praying for lands as a settler. It does not appear that the petitioner has a family, nor that he has been in the province 12 months.

Martin Byard. Praying for lands as a settler. Recommended for 200 acres upon his becoming a *bona fide* resident.

Margaret Dimond, alias Sharman. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Battes Sharman [Baltus Shoeman]. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Magdalen Holcomb, alias Sharman [Shoeman]. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christina Dimond, alias Sharman [Shoeman]. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Woodcock, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Wager. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Isaac Larraway. Praying to have his military lands as a private completed. Recommended for 100 acres in addition as a soldier.

Margaret Murdoff. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Zacarias Fralick. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Martin Duniess. Praying for lands as a military claimant, having served in the German troops during the American war. Recommended to be put on the same foot by courtesy, with other soldiers, if he can produce his discharge.

Jacob Fralick. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

George Lucas. Praying that the residue of his deceased father, Amos Lucas's lands may be granted to his heirs. Recommended to grant 100 acres to the heirs of George Lucas.

Catherine Louks. Praying that the residue of her deceased husband's military lands as a private may be granted to her, also praying for lands for her daughter as a loyalist. Petitioner recommended for 200 acres which her late husband might have received as a soldier. Her daughter recommended for 200 acres as a U.E. Loyalist, if of age or married.

Mary Rickely, alias Defoe. Praying for lands as a loyalist. Recommended for 200 acres.

Hulday Prindle. Praying that the residue of her late husband's military lands as a serjeant may be granted to her. Petitioner recommended for 300 acres in addition which her late husband might have had as a serjeant, provided he has no children living.

Isaac Van Alstine, Senior. Praying that the lands to which his late father Lambert Van Alstine might have been entitled to may be granted to his heirs. Recommended to grant 200 acres to the heirs of Lambert Van Alstine in addition to what he may have received.

Elizabeth Thompson. Praying that the residue of her late husband, Adjutant William Fraser's military lands may be granted to her. If Adjutant William Fraser has not received the whole of the lands he was entitled to the committee recommend that the quantity due may be granted to the heirs of his body, and in failure of those to his widow being resident and producing certificate of marriage. Certificate of marriage produced and admitted by the board this day.

Jas. Breakenridge. Praying for a grant of the great falls on the river Gananoqui to erect a saw mill on. Referred to the Acting Surveyor General to report.

Richard Sharp. A land board certificate. Recommended for 200 acres, if not granted before.

John Harcourt. Praying for lands as a settler. Recommended for an appropriation of 200 acres for 12 months, the warrant not to issue till petitioner's oath is lodged.

David Karr. Praying for lands as a settler. Petitioner's oath to be lodged and then recommended to appropriate 200 acres for him for 12 months.

Jacob Dingman. A land board certificate. Recommended for 200 acres, if not granted before.

Jacob Dingman. A land board certificate. Recommended for 200 acres, if not granted before.

Abraham Cronkhite. A land board certificate. Recommended for 200 acres, if not granted before.

Thomas Wilson. Praying for lands as a settler. Petitioner being a soldier in the Canadian Volunteers can have no lands until he is discharged.

Billa Whitney. Praying for lands as a settler. Recommended for 200 acres.

John Kelly. Praying for the broken front of lot 35 in the 1st concession of Haldimand, on which he is settled. Recommended for the broken front in consideration of his being the first settler in the township.

John Merrium. Praying for lands as a settler. Recommended for an appropriation until petitioner's family is in the province.

Elisha Baker. Praying for lands as a settler. Recommended for an appropriation until his family is in the province.

Edward Goodyear. Praying for lands as a settler. Recommended for an appropriation until his family is in the province.

Moses Steele. Praying for lands as a settler. Recommended for an appropriation until his family is in the province.

George M'Alpin. Praying for lands as the son of a captain. Recommended for 600 acres as the son of a captain.

Reuben Tucker. Praying for lands as a settler. Recommended for 200 acres.

Thomas Everton. Praying for lands as a settler. Recommended for 200 acres.

Moses Doolittle. Praying for the broken front of lot 13 in the front of Haldimand, as a settler, for which lot he has been returned. Not recommended for the broken front, but petitioner may have it as part of his lands and reckoned at 100 acres.

Aaron Greeley. Praying for town lots for himself, and fifteen other persons in Newcastle. Mr. Greeley may have a lot, the other persons are unknown.

John and Richard Benson. Praying for lands as loyalists. Recommended for 200 acres each.

Jacob Hughson. Praying for lands as a settler. Recommended for 200 acres to be appropriated for 12 months.

Lanah Stevens, alias Mattice. Praying for lands as a loyalist. Proof being taken of the petitioner's father being on the U.E. List, recommended for 200 acres.

Eleanor Booth. Praying for lands as a loyalist. Proof being had of petitioner's being the daughter of an ensign recommended for 400 acres altogether.

Elijah Bottum. Praying for family lands. Evidence being given of the proofs required for family lands, recommended for 150 acres as such.

John McMichael, of Thurlow. Praying for family lands and lands for his wife as a loyalist. Upon the enclosed certificate recommended for 200 acres.

Thomas E. Mathas. Praying for family lands and lands as a settler. Petitioner recommended for 200 acres, including former grants and 150 acres family lands having produced a certificate.

Mrs. Anne Powell. Praying to be allowed to locate 400 acres of the lands granted to her by the Crown in the township of York and for a town lot in York. Recommended for a town lot in York. The residue of the petition referred to His Honour.

David Kilborn, Senior. Praying for family lands, and to have his lands as a loyalist completed. Recommended for 100 acres in addition. Certificate wanted for family lands.

Jane Read, alias Smith. Praying for lands as a loyalist. Recommended for 200 acres, if on the U.E. List.

Sebray Fairfield, alias Willcox. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Rebecca McLean. Praying for lands as a loyalist. Recommended for 200 acres.

John McDonald. Praying for a town lot in York. Recommended for a town lot in York.

Robert McCauley and Thomas Markland. Stating that they purchased lots 6 and 8 in the town of Kingston from Sir John Johnson, and praying that the deeds thereof may issue in their names. Referred to the Surveyor General to report on the right of Sir John Johnson to alien the lots in question.

Peter Wartman. Praying to be confirmed in the south half of lot 10, 1st concession, and east half of lot 14, 2nd concession of Kingston which he has drawn but for which he has no certificate. Recommended if petitioner's name is on the plan transmitted from Quebec.

James Connor. Praying for military lands as a hospital mate. The royal bounty is confined to those who actually settled in the province.

James Wheeler. Praying for lands as a settler and a town lot in Kingston. Recommended for 200 acres but no town lot.

Henry Bush. Stating that his father has drawn 400 acres of land in the township of Loughborough which are unfit for cultivation, and a deed having issued for the same, praying it may be cancelled, and that he may be allowed to draw the lands in some other part of the province. Recommended but on condition that the petitioner pay the expence of both patents.

George Okill Stuart. Praying for 1200 acres of land. The petitioner being the son of the only ecclesiastical dignitary and the board having a confidence that he really intends to enter into Holy Orders, recommended for 1200 acres inclusive.

John Griffith. Praying for military lands as a captain. Recommended for 3000 acres inclusive as a captain.

Aaron Brewer. Stating that he drew lot 14 in the 3rd concession of Kingston jointly with William Wells, who being a sea faring man left the province in the year 1784, and died at the bay des Chaleurs as he has been informed by a Mrs. Elizabeth Robertson, at whose house he died, and has left no other claim on his part of the lot, except a claim of the said Elizabeth Robertson for her care and attendance on him when ill, and praying that the said 100 acres may be assigned to his children Margaret and John Brewer, as it adjoins the lot ceded to the petitioner on which he has made all his improvements. Recommended, but no warrant to issue until an affidavit is produced of the death of William Wells, and a certificate from Mrs. Robertson that her claims on the lot are satisfied.

Henry Hover. Praying that the residue of military lands, as privates, to which his father and brother might have been entitled may be assigned to him. It does not appear that the father or brother of the petitioner ever bore arms: if they did, their discharges or certificates from their officer of their being discharged must be produced. Petitioner himself is recommended for 200 acres, if of age.

John Scharmahorn. Praying the military lands to which his deceased father was entitled may be completed and assigned to petitioner as his heir. Evidence being produced, recommended for 2000 acres inclusive.

Harriet McLean, daughter of the late Niel McLean, assistant Commissary General. Praying that the King's bounty in lands may be extended to 3000 acres and that the same be assigned to petitioner as the heir of the said Niel McLean deceased. Recommended that 3000 acres, inclusive, be granted to Mrs. McLean as devisee of her late father.

Magdalane Thompson, alias Keller. Praying for lands as a loyalist. It does not appear that the petitioner is the daughter of a U.E. Loyalist.

Adjourned.

20th December, 1797.

Council Chamber at York.

Present: His Honour Peter Russell, Esquire, President; Hon. John McGill, Hon. David William Smith, Speaker of the Lower House.

At the motion of the President, ordered, that 1200 acres of land be granted to Mrs. Mary Ann White, wife of the Attorney-General and 1200 acres to each of his three children, Eleanor White, Charles Samuel White and William Glendower White.

Read the following petitions:

William Gamble. Praying for lands as a settler. Ordered, that an appropriation of twelve hundred acres be made to the petitioner and a deed issue for the same as soon as may be after he brings his family into this province.

John McDougall. Praying to have his lands extended to the military allowance of a subaltern, having served during the American War as a conductor of wagons. The petitioner's claim of being admitted to the portion of a subaltern officer cannot be received, but being judged to be a proper object for the extension of His Majesty's bounty, ordered 300 acres in addition.

Hon. John Elmsley. Praying that he may be allowed to exchange one of his lots in the 3d concession of the township of York, for lot 22 in the 2nd concession which has been reserved for a glebe. The exchange prayed for is permitted.

George Crookshank. Praying to be allowed to locate 200 acres in the township of York in part of 1200 acres which have been granted to him. The prayer of the petition is granted.

John Endicott. Praying for a town lot in York. The prayer of the petition granted.

Francis Waddle. Stating that he has purchased from Colby a lot of land for which he has paid him £10, in part and that Colby has since left the province. Petitioner therefore prays the said lot may be assigned to him. Inadmissible.

Elizabeth Stapleton. Praying for lands as the widow of the late William Stapleton, foreman of carpenters engineers department. Ordered 200 acres, if none have been granted before.

Thomas Ward. Praying for a town lot in York. Ordered a lot in the town of York.

Alexander McQueen, Ensign Queen's Rangers. Praying for lands. Ordered 500 acres to the petitioner on the same principle that land was granted to the adjutant of the Canadian Volunteers.

Robert Jackson, Senior. Praying to be confirmed in 200 acres which have been assigned to him as a settler. Confirmed in Council.

John Collins. Praying to be confirmed in 200 acres of land which have been assigned to him as a settler. Confirmed in Council.

William Gilmar. Praying to be confirmed in 200 acres of land which have been assigned to him as a settler. Confirmed in Council.

Robert Jackson, Junior. Praying to be confirmed in 200 acres of land which have been assigned to him as a settler. Confirmed in Council.

Robert Jackson, nephew of R. Jackson, Senior. Praying to be confirmed in 200 acres of land which have been assigned to him as a settler. Confirmed in Council.

Joseph Gordon. Praying to be confirmed in 200 acres of land which have been assigned to him as a settler. Confirmed in Council.

Andrew Ross. Praying to be confirmed in 200 acres of land which have been assigned to him as a settler. Confirmed in Council.

John Collins. Praying for lands as a military claimant. Petitioner must produce his discharge from the Jersey Volunteers.

Andrew Templeton. Praying for a town lot in York. Ordered a town lot in York.

Adam Brown. Praying for lands as a settler. In consequence of Colonel McKee's recommendation, ordered 400 acres of land.

John Clendennen, Senior. Praying for lands as a settler. To lie over for consideration when petitioner appears.

John Ross. Praying for a town lot in York. Ordered a lot in the town of York.

The following memorandum from the Acting Surveyor General was read:

MEMORANDUM

20 Dec., 1797.

Your Honour desired me to remind you in Council that an old man by the name of Fisher wished for a lot off Yonge street, entered to one Morgan, who is said to have gone to the States, and does not mean to become a settler, having not as yet made any improvement.

(Signed) D.W.S.

Ordered that the clerk of the Council give immediate notice to Morgan to appear before this board within six months from the date hereof, to shew cause why the order of Council in his favour shall not be rescinded; and the Acting Surveyor General is desired to suspend the issuing of any description for grants to Morgan until further order.

UPPER CANADA
LAND BOOK D

22nd December, 1797
to
13th July, 1798

22nd December, 1797.

Council Chamber, York.

Present: His Honour the President, Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Read the following petitions:

John Cox. Stating that he brought with him from the Treasury an order to receive 500 acres of land; that His Excellency Lieut.-Governor Simcoe was pleased to add thereto 200 acres as a settler, which he has received in front of the township of York and was to have received the remainder that is, 500 acres in the rear thereof, being the lands now held by the Messrs. Playters in lieu whereof His Excellency was pleased to direct they should be located in Scarborough, and in consequence of such order his name has been inserted on the plan for that quantity. Prays to be confirmed in his location in the township of Scarborough.

The Board not knowing of any specific promise from His Excellency Governor Simcoe to grant the petitioner 200 acres in addition to the 500 acres ordered by the Treasury, order that the lands already granted to the petitioner be made up 500 acres.

John Snider, Junior. Praying for lands as the son of a U.E. Loyalist. A certificate or the appearance of the petitioner wanted to convince the board he is of age.

Mathew Snider. Praying for lands as the son of a U.E. Loyalist. A certificate wanted or the appearance of the petitioner to convince the board he is of age.

Jacob Hewett. Praying for family lands for his wife and seven children. Certificate wanting to shew the petitioner is entitled to family lands.

Frederick Johnson. Praying for lands for one of his children. The necessary certificate wanting.

John Wilsey. Praying for lands for himself, wife, and eight children having never received any. Ordered 200 acres for the petitioner, but certificate wanting to prove he is entitled to family lands.

Cornelius Wilsey. Praying for lands as the son of a U.E. Loyalist. Certificate wanting or personal appearance to convince the board the petitioner is of age.

Solomon Wilsey. Praying for lands as the son of a U.E. Loyalist. Certificate wanting or personal appearance to convince the board the petitioner is of age.

John Snider, Senior. Praying for family lands for a wife and eleven children. A certificate wanting to prove the petitioner entitled to family lands.

Peter Snider. Praying for lands as the son of a U.E. Loyalist. A certificate or personal appearance wanting to convince the board the petitioner is of age.

Hanah Carley. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres.

Francis Brumigem. Praying for lands as a settler. Ordered 200 acres, if none granted before.

Elizabeth Mattice. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres.

Mary Brumigem. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres.

Catherine Church. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres.

Duncan McLean. Praying for family lands for a wife and five children. Certificate wanting to prove petitioner entitled to family lands.

Jonathan Black. Praying for the residue of his military lands and lands for his wife and three children. Ordered, that the land the petitioner has received be made up the quantity usually given to serjeants. A certificate wanting to prove him entitled to family lands.

James Allen. Praying for 1200 acres of land. More information wanting to guide the board in the quantity of land proper to be given to the petitioner.

Jonathan Scott. Praying for a town lot in York. Ordered, a town lot in the town of York.

Shivers Cozens. Praying for a town lot in the town of York. Ordered a town lot in the town of York.

Mathias Sanders. Praying for lands as a settler. Ordered 200 acres in township of York.

Amos Ansley. Stating that he served last American war as a master carpenter, and received 200 acres of land, that he has a wife and five children, and praying for an addition for himself and family lands. The petitioner has been misinformed respecting master carpenters being entitled to the proportion of land given to subaltern officers. A certificate wanting to prove him entitled to family lands.

Paul Willcott. Praying for a town lot in the town of York. The prayer of this petition cannot be complied with.

Jonathan Willcott. Praying for a town lot in the town of York. This petition is answered in the petition of Paul Willcott answered this day.

Jonathan Ashbridge. Stating that he has received lot 9 in the township of York and half of lot 26 in front township of Scarborough, prays for the other half of lot 26 and a town lot in the town of York. The prayer of this petition cannot be granted.

John Ashbridge. Praying for lands in addition to 200 acres received. The prayer of this petition cannot be complied with.

Isaiah Skinner. Praying for lands in addition, and a town lot in the town of York. The prayer of this petition cannot be complied with.

Samuel Sinckler. Praying for a town lot in the town of York. The prayer of this petition cannot be complied with.

R. T. Short. Praying to exchange a lot for lot 15, a reserved Crown lot in Haldimand. The reserve asked for by the petitioner, if a Crown lot, may be exchanged if the Surveyor General sees no objection.

Thomas Burton. Praying for his military lands as a reduced soldier. Ordered, 300 acres as a reduced soldier, if not granted before.

Jonas Barns. Stating that his father received 100 acres but was never confirmed in it and that his father having since died, prays to be confirmed in the same, and for such addition as his father would have been entitled to, had he been living. Ordered, that the petitioner be confirmed in the lot his father was entered for, unless it has since been granted to others. The rest of the petition to lie over for the new regulations.

Samuel Heron. Praying for a town lot in York, and lands in addition to 400 acres which he has received. More than one acre cannot be granted to any individual. The answer to the rest of the prayer to lie over for the new regulations.

James Falconer. Praying for lands, having served last American war in the Royal Navy as a master mate. The petitioner to appear or produce proper certificates in support of his petition.

John H. Hudson. Praying to be confirmed in a location of 200 acres and an addition thereto. Ordered, 200 acres, if not granted before.

William Ashley. Praying to be confirmed in the lot on which he resides, and for one hundred acres in addition to complete his military lands and lands for a wife and two children. Ordered to be referred to the Surveyor General to direct Mr. Aitken to report on the merits.

Robert Cooper, lieutenant, Royal Engineers. Praying for 2,000 acres of land. It being contrary to a rule of council to grant lands to military officers on service, the prayer of this petition cannot be complied with.

Leonard Brown, late Ensign, Queen's Rangers. Praying for lands. The prayer of this petition cannot be granted.

Thomas Berry. Praying for lands in addition, and for a town lot in the town of York. No more than one acre can be granted to an individual. The petitioner has already a lot in the town of York, the rest of the petition to lie over for the new regulations.

Frederick Baron D'Hoen. Praying for a town lot in York. Ordered, a town lot in the town of York on the usual conditions.

Samuel Backhouse. Praying for a lot in the town of York. Ordered, on the usual conditions.

George Bough. Praying to be confirmed in his lot. Referred to the Surveyor General to inquire and report.

Jonathan Bedford. Praying for lands for his wife as the daughter of a loyalist. Certificate wanted to prove petitioner to be the daughter of a U.E. Loyalist.

Joseph Brant. Praying for lands for his deceased son, Isaac, who served last war as a volunteer. The Board cannot grant lands to deceased persons.

Ruth Howe. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres.

Adjourned.

2nd January, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David W. Smith.

Read the following petitions:

William Dickson. Stating that he has located lands in Flamborough amounting to about ten thousand acres, that the greatest part of it is unfit for cultivation, and that deeds have issued for the far greater part of them, prays that he may be permitted to exchange them for other unlocated lands, he paying the accustomed fees.

The board are concerned it cannot with propriety accede to the petitioner's request with respect to the deeds already issued, it being a precedent which may lead to injurious consequences. But should the petitioner have other lots in the same predicament for which deeds have not issued, the board will with pleasure shew every proper indulgence to his application to changing them.

Frederick Bush. Praying for a town lot in the town of York. Ordered, a town lot in the town of York on the usual conditions.

Adjourned.

4th January, 1798.

Council Chamber, York.

Present: Hon. Peter Russell, Esq., President; Hon. John Elmsley, Esq., Chief Justice; Hon. John McGill, Hon. David W. Smith.

The Attorney General appeared before the board, and requested to know in what manner he was to prepare the grants of lands assigned to the late Major James Gray, and by him devised in strict settlement to his wife Mrs. Elizabeth Gray, his son Robert Gray, Esq., and other persons.

He was directed to prepare the grant in strict settlement according to the limitations of the will which he was further directed to recite or set forth verbatim.

Commissioners' reports. Moved by the President, that copies of the reports of the Commissioners of claims in the Eastern and Midland districts be immediately sent by the clerk of the Council to the Acting Surveyor General, who shall be directed to examine the same and report to this board with as little delay as possible, whether descriptions have been issued from his office for any of the lots or portions of lands the possessors' claims for which have been allowed by the commissioners in the said report.

A list of deeds ready for issue to be transmitted to the council office by the secretary. Moved by the Chief Justice. That the secretary do immediately transmit to this office a list of such deeds as now lie ready for issuing in his office, and that he specify the lands contained in each deed, as well as the names of the persons to whom they are granted.

Adjourned.

5th January, 1798.

Council Chamber, York.

Committee of Council, present: Hon. John Elmsley, Esq., Chief Justice; Hon. David William Smith, Esq.

Committee proceeded to read the following petitions:

Elizabeth Pepper. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sally Parks. Praying for lands as the daughter of a loyalist. Recommended for 200 acres, if on the U.E. list.

Catherine Cryderman. Praying for land as the daughter of a U.E. Loyalist. Recommended for 200 acres, as a U.E. Loyalist.

Ann McFee, daughter of Duncan McDonell. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Milross. Praying for an additional grant of land as a loyalist. Recommended for 100 acres in addition to 100 acres received.

Francis Robins. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christian Snetsinger. Praying for the residue of her late husband's military lands. Recommended for 200 acres to complete the late husband's military lands, to be granted to herself (and children if she has had any by him).

Mary Waggoner. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Putman. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jannet McDonell, daughter of Duncan McDonell. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Hannah Miller. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 400 acres as the daughter of a subaltern.

Richard Trap. Praying for the residue of his military lands. Recommended 100 acres to complete 400 acres military lands.

Jacob Waggoner. Praying for lands to complete his military allowance. Recommended for 200 acres to complete his military lands.

Christian Ross. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Robertson. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Kitty McMillan, daughter of Alex McDonnell. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Florey McDonell. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Kitty McMillan, daughter of Donald. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Claus. Praying for his military lands. Recommended for 300 acres as a soldier.

Eleanor Loeney. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Henry Merkley. Praying for the residue of his military lands. Recommended for 200 acres to complete military lands.

Ann Empy. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Dousler. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Eve Empy. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Munro, John Munro, Kitty McDonell, Mary McDonell, Mary McDonell, Jenny McDonell. Praying for lands as the sons and daughters of U.E. Loyalists. Recommended for 200 acres each.

Mary Ashburn. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine Gallenger. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Martin Blake. Praying for lands as a soldier. Recommended for 300 acres.

Nathaniel Wood. Praying for lands as a U.E. Loyalist. Recommended for 200 acres.

William Grant. Praying for lands as a U.E. Loyalist. Recommended for 200 acres.

Peter Carpenter. Praying for military lands and lands for his wife and family. Recommended for 100 acres in addition. The certificate for family lands wanting.

Henry Barnhart. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres.

Peggy McLeod, daughter of J. Cameron. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Joseph Fortune. Praying for lands as the son of a captain. Recommended for 600 acres as the son of a captain.

Mary Barbara Otto. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Abijah Christie. Praying for his military lands having served as a corporal. Recommended for 400 acres military lands.

Mary Fetterly. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Neil Robertson. Praying for 1500 acres of land, having served last war as a lieutenant in Sir John Johnson's Regiment and only received 500 acres. Recommended for 1500 acres in addition as a subaltern.

Stephen Miller. Praying for lands as a discharged soldier. Recommended for 300 acres as a discharged private.

John McIntosh, Isabella McIntosh, Catherine McIntosh. Praying for lands as the son and daughters of a U.E. Loyalist. Recommended for 200 acres each as U.E. Loyalists.

Anne Crowder. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Tunas Bender. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine McLean. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Empy. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Nicholas Farlinger. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christian McGruer. Praying for lands as a U.E. Loyalist's daughter. Recommended for 200 acres as a U.E. Loyalist.

Archibald McLeland. Praying for lands as the son of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

James Forsyth. Praying for 100 acres in lieu of lot 6 in the 8th concession of Cornwall, which he took up as part of his military lands, as he finds that lot is under a certificate to another person of a prior date to his. Recommended for 100 acres in lieu of that under double certificate.

Catherine McDonell. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sally Hartle. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christian Empy. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Empy. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Lowny. Praying for lands as the son of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Hartle. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sarah Wood. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Bruce. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Cumings, 84th Regiment. Praying for military lands as a discharged soldier. Recommended for 300 acres as a soldier.

Catherine McGregor. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Abby Groves. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Carpenter. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Samuel Lowny. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Edward Loeny. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Donald McDonell. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Kitty McDonell. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Forsyth. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Dixon. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Barnhart. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Emery. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Grace Cameron. Praying for lands as the daughter of a loyalist. Recommended for 200 acres upon producing certificate of age or married.

Catherine Cryderman. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Susanna McMillan. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Hart. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mathias Link. Praying for the residue of his military lands as a soldier, having only received 100 acres. Recommended for 200 acres in addition as a soldier.

Conrod Countryman. Praying for lands as the son of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Philip Frymire. Praying for the residue of his military lands as a soldier, having only received 100 acres. Recommended for 200 acres in addition as a soldier.

Joseph Sutherland. Praying for the residue of his military lands as a serjeant, having only received 100 acres. Recommended for 400 acres in addition as a serjeant.

Alexander McDonell. Praying for lands as a U.E. Loyalist. Submitted to confirm the within magistrate's recommendation and to grant the petitioner 200 acres.

Dorothy Dewitts. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Grant. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Clark. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine Algire. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Barbara Stuart. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Peter Fitzpatrick. Praying for lands as the son of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Richard Empy. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Empy, Junior. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Gallinger. Prayer for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Link. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Empy. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Algire. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Algire, Junior. Praying for lands as the son of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jacob Algire, Junior. Praying for lands as the son of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Eaman. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Lang. Praying for lands as the son of a loyalist. Recommended for 200 acres if not granted before.

Elizabeth Otto. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Richard Merkle. Stating that he made an exchange of land with Captain John Stegman, now a deputy surveyor in this district, and gave him lot 18 in the 3rd concession for lot 14 in the 2nd concession of the township of Osnabruck. That after petitioner had lived upon and improved said lot 14 he was given to understand that the land he had got from Captain Stegman was the property of one Lieut. John Mann, and that Captain Stegman could give no title for it, whereupon your petitioner made application to the said John Mann and was encouraged to go on with his improvements, and was informed that John Mann would accept of the bargain and exchange which he had made with Captain Stegman. That when petitioner first settled on that lot, he began his improvements on the rear of it, but on the south side of the line that divided the second from the third concession, which line was run by Patrick McNiff, during the time he was deputy surveyor for this district.

That one Jacob Rambough is now settled on lot 14 in the 3rd concession, and in the course of last year he the said Jacob Rambough and many others petitioned His Excellency Lieut. Governor Simcoe and Council stating that the 3rd concession was deficient in length, and therefore praying that the division or head line might be moved into the then second concession which was alleged to contain more than its length. That in consequence of said petition, the division line was moved eighteen or nineteen chains on to the second concession which comprehends all the improved part of petitioner's land and annexes it to that of the said Jacob Rambough. That petitioner is a very considerable sufferer by the alteration of the said line, and that he has since the moving of it frequently endeavoured to come to an arrangement with the said Jacob Rambough and to obtain some compensation from him for the damage he has sustained, but the said Jacob Rambough ever has and still does totally refuse to make any kind of satisfaction, prays for relief in the premises. Recommended that Rambough's deed be stayed in the Secretary's office, if in that state of forwardness, and the acting Surveyor General to make enquiry and report.

Solomon Tuttle. Stating that he joined the royal standard previous to the year 1783, and has drawn 100 acres of land, prays for the residue of his military lands. Recommended for 100 acres in addition, but certificate of family lands insufficient.

Frederick Popts. Prays for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine Sheets. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Dolly Tuttle. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Henry Hoople. Praying for the residue of his military lands as a soldier. Recommended for 200 acres in addition as a soldier.

James Fennel. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Richard Merkle. Praying for family lands, having a wife and nine children. Recommended for 500 acres family lands.

William Crowder. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christian Stoneburner. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Isaac Crowder. Praying for the residue of his military lands as a soldier and for family lands. Recommended for 100 acres to complete military lands. Certificate for family lands insufficient.

Ann Mattice. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Levy Solomons. Praying for lands as a settler. Jews cannot hold land in this province.

Mary Popts. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mathew Bready. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Sheffield. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Moses Hart. Praying for lands that are due to non-commissioned officers and soldiers having purchased several rights. Not recommended.

Christien Rambough. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Moore. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Anthony Lampin and Mary Lampin. Praying for lands as a settler, and for lands for his wife as the daughter of a loyalist. The husband's petition must lie over, the wife's petition requires further support.

Ann Anabeld. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Peter Ruport. Praying for the residue of his military lands as a soldier, having only received 100 acres. Recommended for 200 acres in addition as a soldier.

Elizabeth Brownell. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Bacon. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mercy Sheek. Praying for lands as the daughter of a loyalist and a subaltern. Recommended for 400 acres as the daughter of a subaltern.

Jacob Rambough. Praying for lands as a settler. Soldier R.R.N.Y. See the order on Richard Merkle's petition of this date.

Ann Cline. Praying for lands as the daughter of a loyalist. Certificate of age insufficient.

Mary Hertel. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Ann Helmer. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine Marsh, daughter of Jeremiah French. Praying for lands as the daughter of a loyalist and a subaltern. Recommended for 400 acres as the daughter of a subaltern.

Mary McDonell, widow of Donald McDonell and daughter of Angus McDonell of lot 14, 5th concession, Cornwall, late of the 84th Regiment; Alexander McDonell, son of Duncan McDonell, 84th Regiment; Jane McDonell, wife of John of Cornwall and daughter of John McDonell of the late 84th Regiment; Mary McDonell, wife of Hugh and daughter of Donald McMillan; Margry McPhale, wife of Archibald and daughter of Donald Fraser, 84th Regiment; Ann McDonell, daughter of John McDonell; Margaret McDonell, daughter of John McDonell of W. ½ 17, S.S.M.B.R.R., Cornwall; Sally McDonell, wife of Angus and daughter of John McDonell; Catherine McDonell, widow of Donald and daughter of Duncan McDonell, R.R.N.Y. Praying for lands as the sons and daughters of U.E. Loyalists, being all of age. Recommended for 200 acres each as U.E. Loyalists.

Elizabeth Cline. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Michael Myers. Praying for lands for himself and family consisting of a wife and two children. Recommended for 350 acres to close all claims.

Mary Anderson. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Eve Devoe. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Link. Praying for lands as a U.E. Loyalist's daughter. Recommended for 200 acres as a U.E. Loyalist.

George Warner. Praying for lands as the son of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Hollister. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Conrad Warner. Praying for the residue of his land, having only received 100 acres. Recommended for 100 acres in addition as a U.E. Loyalist.

Michael Warner, Junior. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Godfrey Warner. Praying for land as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Smith. Praying for land as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Robert McGloghlon. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Rachael McEwan. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

David McGloghlon. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sussanah Ferguson. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elisha Anderson. Praying for lands as the son of a captain. Recommended for 300 acres in addition as the son of a captain.

Mathias Snetsinger. Praying for family lands. Recommended for 50 acres family lands.

Margaret Mitchel. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine Empy. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Donovan. Praying for lands, being the daughter of a captain. Recommended for 600 acres as the daughter of a captain.

Margaret Crytes. Praying for lands as a loyalist's daughter. Recommended for 200 acres as a U.E. Loyalist.

John Anderson. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine McDonell, daughter of Duncan Grant. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Nancy Barnhart. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary McDonell. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Richard Anderson. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christian Gallinger. Praying for 100 acres of family lands which are due him. Recommended for 100 acres family lands.

Mary Vandusen. Praying for lands as the daughter of a subaltern. Recommended for 400 acres as the daughter of a subaltern.

Anne Chisholm, Ann Martin and Mary Munro. Praying for lands as the daughters of U.E. Loyalists. Recommended for 200 acres each, as U.E. Loyalists.

John Eman. Stating that he served last war in America as a soldier, and was reduced at the reduction of 1783, also that his wife is the daughter of a U.E. Loyalist. Praying for the residue of his military lands (having received only 100 acres) and lands in right of his wife as the daughter of a U.E. Loyalist. Recommended for 200 acres to complete his military lands. It does not appear that his wife is the daughter of a U.E. Loyalist.

Louis Grant, deputy surveyor in the Eastern district. Praying to have his lands made up 1200 acres to put him on a footing with other surveyors of his description, and to exchange lot 24 in 3rd concession, township of York, for lands in the Eastern district, also for a town lot 11 Water Street and park lot 6 in the third tire east side New Johnstown. Recommended for 1200 acres, including former grants, to put him on a footing with the other surveyors on the establishment. Petitioner may have his lands in Kitley, if vacant, in lieu of those formerly applied for in York and may be indulged with a town park and lot in Cornwall having built.

Penelope Beikie. Praying for lands as the daughter of a captain. Recommended for 600 acres as the daughter of a captain.

Sarah Smith, daughter of Richard Dingman. Praying for lands as a loyalist's daughter. Recommended for 200 acres as a U.E. Loyalist.

Eleanor Hoople. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Dorothy Roys. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Bruce. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Christie. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Cole. Praying for his military lands as a soldier. Recommended for 300 acres as a soldier.

Thomas Redford. Praying for lands, having served last American war as an artificer. Recommended for 300 acres as an artificer who served during the war.

John Moss. Praying for his lands as a discharged soldier, having served last war in Col. Butler's Rangers. Recommended for 300 acres as a soldier upon producing his discharge, or a fuller certificate to that effect than the one inclosed.

Joseph Sarandac. Praying for lands as a discharged sailor. Recommended for 300 acres as a sailor.

Andrew Fournier. Praying for lands as a discharged sailor. Recommended for 300 acres as a sailor.

Charles Euly. Praying for lands as a discharged sailor. Recommended for 300 acres as a sailor.

Stephen Coutier. Praying for lands as a discharged sailor. Recommended for 300 acres as a sailor.

Lewis Stillwell. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Cameron. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Isabella McGregor. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Donald McNaughton. Praying for lands as the son of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sarah Bruce. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Crouder. Praying for lands as a loyalist's daughter. Recommended for 200 acres as a U.E. Loyalist.

Anne McRae. Praying for lands as a loyalist's daughter. Recommended for 200 acres as a U.E. Loyalist.

James Haggart. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Anne McKay. Praying for lands as a loyalist's daughter. Recommended for 200 acres as a U.E. Loyalist.

Christy McKay. Praying for lands as a daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Katherine Dingwall. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Dougald McPherson. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Anne McLaren, daughter of Angus McKay. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Smith. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christian Ross. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Isabella Smith. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U E. Loyalist.

Sarah McLenan. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist

Mary Clark. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christian Grant. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E Loyalist.

Margery Grant. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Peter McArthur, son of Donald. Praying for 100 acres to complete his lands as the son of a loyalist Recommended for 100 acres in addition as a U.E. Loyalist.

Mary McIntosh. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Kaine. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

George Finney. Praying for lands as the son of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Anne Munro. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Green. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U E. Loyalist.

William McIntosh. Praying for lands as the son of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Anne Bethune. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christian Chisholm. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jean Ferguson. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Abigail Smith. Praying for lands as a loyalist. Recommended for 200 acres, if her name or her mother's be on the U.E. list.

Daniel McKay. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine Cross. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U E. Loyalist.

William Calder. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Hagart. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John McArthur. Praying for lands as a reduced soldier. Recommended for 300 acres inclusive as a soldier.

Jenny McDonell. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Nelly McIntire, daughter of John Grant. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Chisholm. Praying for lands as a loyalist's daughter. Recommended for 200 acres as a U.E. Loyalist.

James Lynch. Praying for the residue of his military lands, having only received 100 acres. Recommended for 200 acres to complete his military lands if not already granted.

Ann Forbes. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Nelly Servos. Praying for land as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist, if her father's name is on the U.E. List.

Mary Falkner. Praying for lands as a loyalist. Recommended for 200 acres if on the U.E. List.

Wieney Mulloy. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary McMullan. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Snyder. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Young. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres if his father's name or his own be on the U.E. List.

Catherine Snyder. Praying for lands as the daughter of a loyalist. Recommended for 200 acres, if her father's name is on the U.E. List.

Mary Ross. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sarah Williams. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Leaney See. Praying for lands as a loyalist's daughter. Recommended for 200 acres if on the U.E. List.

Mary Ross. Praying for lands as the daughter of a loyalist. Recommended for 200 acres, if her father's name or her own be on the U.E. List.

Catherine Dunn. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary McCready, daughter of Jacob Snyder. Praying for lands as the daughter of a loyalist. Recommended for 200 acres, if her father's name or her own be on the U.E. List.

John Johnson Sutherland. Praying for his lands as a reduced soldier. Recommended for 300 acres inclusive as a soldier.

Alexander Sutherland. Praying for his residue of military lands, having only received 100 acres. Recommended for 200 acres to complete his military lands.

Thomas Sutherland. Praying for 200 acres, being the residue of his military lands. Recommended for 200 acres to complete his military lands.

Mindwell Glasford. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Curry. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres if her father's name or her own be on the U.E. List.

Alexander Ross. Praying for an addition to 100 acres received as a loyalist. Recommended for 100 acres in addition.

Margaret McMartin, alias McGruer, daughter of Malcolm McMartin. Praying for lands as a loyalist's daughter. Recommended for 200 acres if on the U.E. List.

Catherine McDougal, daughter of Alexander Grant. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Adjourned.

Council Chamber, York. 6th January, 1798.

Present: His Honour Peter Russell, Esq., President; Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David Wm. Smith, Esquires.

Read the following petitions:

Thomas Reynolds, deputy commissary at Amherstburg. Stating that his family has received 1,000 acres, and himself 400 acres, prays to have his personal grant extended to the quantity given other commissaries.

Ordered, that the land granted to the petitioner be made up 2000 acres as a reduced commissary and that 200 acres each be granted to his children including the 1,000 acres herein mentioned to have been granted to his family.

Mrs. Ann Powell. Praying for a town lot in York. Ordered that lot 8 in the rear of Mr. Justice Powell's lot be appropriated to the petitioner as prayed for.

Alexander Chisholm. Praying that the reserve may be removed from lot 34, 1st concession in the township of Murray, with its broken fronts, and granted to petitioner. Referred to the Surveyor General to report on the propriety of granting the petitioner's request.

Josiah Phelps. Stating that he is desirous of building a vessel on Lake Simcoe, having prepared rigging and sails for that purpose, and built a house on this side of the lake. Prays for a grant of land that will make it a sufficient object for him to proceed on his intended plan. The lands belonging to the Crown on lake Simcoe not having been surveyed no lands can yet be appropriated there. But the petitioner may at his own risk build a vessel for the purpose of navigating that lake, provided he acts orderly and as a good subject to the King with respect to the Indians.

Jacob Farrand, Esq. Read a letter from Mr. Farrand, Clerk of the Peace in the Eastern district, to the Clerk of the Executive Council, dated Cornwall, 26th October, 1797.

Sir,—

I take the liberty of writing you a few lines by Mr. Gray upon the subject of the deeds. Among the few deeds which have come to my office from the secretary of the province, I find some for certificates granted to persons who long since either sold or exchanged the same and others for persons who have been dead before the certificates were surrendered. In the first case it may happen, that the purchaser of the certificate will not be able to procure a legal conveyance, and at the same time by the issuing of the deed, be prevented from taking advantage of the late Act of the Legislature. In the other case it may be proper to deliver the deed to the heir but in this I shall be happy to be guided by your opinion as to what proof of the persons being the heir will be necessary to authorise me to issue the deed to him.

Mr. Gray has informed me that he put into your hands a book, which altho' I at first intended for my private satisfaction, I find now be disposed of to the public advantage. And it may therefore not be amiss to explain the plan of it to you. The book is arranged in alphabetical order and the persons from whom the certificates were received into my office are numbered under their proper letter, 1, 2, 3, etc., and their names reserved. All the certificates below any number and immediately between it and the next number are either purchases or transfers by some means or other, unless the persons name last numbered be in the certificate, which is often the case, for the certificate frequently contains two or more names, and as only one person can be. in the possession of the certificate, both or all are entered for the same lot, but only one is numbered. In some of these cases the holder of the certificate hath purchased from his associate or associates, of which in a few instances there are remarks in the book, but I am afraid not of the whole Had I had an idea that this book would ever have been called into public view I should have been more particular with respect to the transfers, or had the idea suggested itself to me, that the book would have been any way serviceable or useful to you in making out the deeds, I would, with the greatest pleasure have made and forwarded a copy to your office; and will yet if you think it necessary. It may be proper also to remark that several certificates for which no deeds have as yet issued, have been transferred since they were sent up and it is probable that others may yet be transferred. This appears to me to be the only objection against issuing the deeds according to the plan of the book, that is to such original nominees as are numbered, but this objection undoubtedly arises from their own fault. I have the honour to be

Sir, Yours, etc.

(Signed) J Farrand.

Ordered that directions be sent to the Attorney General to suspend the issuing of fiats upon such certificates from the Eastern district as come under the description stated in this letter and that Mr. Farrand's list shall be received by the commissioners as sufficient evidence of those certificates having been lodged in the Attorney General's Office and the claims thereon proceeded upon as the Act directs.

Daniel Hazen. Praying that he may be permitted to relinquish 600 acres which he located in Long Point in favour of James Maclem and to locate his lands elsewhere. James Maclem permitted to locate the 600 acres ordered him in the Long Point Settlement.

Adjourned.

11th January, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Read the following petitions:

Joseph Truts. Praying for a town lot in Newark. Recommended for a town lot in Newark.

Nicholas Cover. Praying for lot 34 west side Yonge street. Ordered that the petitioner be confirmed in lot 34 west side Yonge Street.

Peter Kuhn. Praying for land and a town lot in York. A town lot ordered, on the usual conditions, that part on lands to lie over for the new regulations.

Ebenezer Allan. For his two daughters, Polly and Cloe, and nieces to an Indian Chief who was killed last American war. Praying to be confirmed in a tract of land of about six miles square on the West side of the River La Tranche, given to them by the Chiefs of the Chippawa Nation. The prayer of this petition cannot be granted.

Solicitor General. Praying for a town lot in York. Recommended.

Order of Council. Ordered, that the clerk do write to Mess'rs McDonell and Phelps, and direct them to appear at the Bar of the Court of Appeal on the second Tuesday of the next term, to shew by what authority they or either of them acted as attorney for the respondent Sherwood in the cause Adams vs. Sherwood which was heard by the said court last term.

Order of Council, Lieut. Thomas Gray and Lieut. Thomas Talbot. Ordered that the appropriations of farm lots in the township of York to Lieut. Thomas Gray and Lieut. Thomas Talbot be erased from the Surveyor General's map.

George Playter. Praying for an addition to the lands he has received for himself and family. The petitioner having received 1200 acres of land which are 700 acres more than the allotment ordered him by the treasury cannot have further claim under the article stated in his petition because this excess is 250 acres more than the 50 acres he demands for each of his children.

Davenport Phelps respecting Francis Hartwell alias Blood. Mr. Phelps appeared before the board, and stated that a man who calls himself Francis Hartwell having produced a certificate from a magistrate of his having taken the oaths, etc., procured him a location of the lot 6 in the 2nd concession of the township of Glanford, of which he was at that time an appropriee. But that since then he has been credibly informed that the above person passed before he came to this province under the name of Francis Blood and is now (as he supposes) in the States, having endeavoured before he went away to sell his lot. Mr. Phelps therefore humbly submits to the board the propriety of rescinding the location of that lot to Hartwell and throwing it open.

Ordered that public notice be given in the *Gazette* that Francis Hartwell, alias Blood, appear before this board on the second Monday in June next to shew cause why the location to him of lot 6 in the 2nd concession of Glanford shall not be rescinded.

SURVEYOR GENERAL'S MINUTES OF SEARCH, MIDLAND DISTRICT

Claimant	No. of the Claims	Lot	Concession	Township	Observations
John McLeod......	2	31	4	Pittsburgh	Described for Allan McDougall upon Mr. Cartwright's recommendation as a magistrate, no. 4930.
Hugh Campbell....	3	W.H. 17	4	Kingston	Described for John Edgar and Captain Everitt, 11 Feb. 1797, no. 46, Midland district.
John Darly........	5	24	3	Loughborough	Described for Charles Holmes upon Mr. Aitkin's certificate no. 5165.
Mahlon Knight....	10	W.H. 12	2	Kingston	Described for William Atkinson, by will from the late R. Hall upon Mr. Collins's certificate no. 4902.
John McLaughlon..	14	14	East side Grand River	Cataraqui	Described for John McLaughlin, in Pittsburgh upon Governor Hamilton's certificate no. 5196.
" " ..	16	6	6	Kingston	Described for John McLaughlin upon Mr. Collins's certificate no. 4917.
Donald McDonell..	35	19	2	Loughborough	Described for William Loyed under Mr. Motz's and Mr. Aitkin's certificate no. 5175.
Donald McDonell..	36	9	2	Loughborough	The east half described for John Muirhead under Mr. Motz's and Mr. Aitkin's certificate no. 5167 and the west half described for William Loyd under Mr. Motz's and Mr. Aitkin's certificate no. 5176.
Ebenezer Washburn	75	5	1	Fredericksburgh	Described for Tobias Stealey and Captain George Singleton upon General Haldimand's certificate no. 5162.

SURVEYOR GENERAL'S MINUTES OF SEARCH, MIDLAND DISTRICT—Continued

Claimant	No. of the Claims	Lot	Concession	Township	Observations
Archibald McDonell	219	50 acres 23	South Bay	Marysburgh	....
Archibald McDonell	220	23, 24	....	Marysburgh	It is not known whether this lot 23 and that of a similar number under the preceding claim (no. 219) is the same or not. No. 23 in the south or west bay was described for Robert Stuart under General Haldimand's certificate no 5834; in case it is not, it is not mentioned how the 50 acres are situated.
Peter Vanalstine....	223	E.H. 2	South Bay	Marysburgh	Described for Sigismund Borman and Andrew Miller, under General Haldimand's certificate no. 1728.
Hazleton Spencer...	226	W.H. 7	1st additional	Fredericksburgh	Described for Kellar and Zearman upon General Haldimand's certificate no. 5155.
Hazleton Spencer...	227	E. H. 9	1st additional	Fredericksburgh	Described for William and Joseph Pringle upon General Haldimand's certificate 1721.
John W. Myers....	228	N.H. 5	1	Thurlow	Described for Captain Geo. Singleton, under Mr. Collins's certificate no. 5118.
John Taylor.......	230	S.H. 5	1	"	
Robert McCaulay and Thomas Markland.	237	W.¾ 100	1	Ameliasburgh	Described for Chris. Katchbow and John Foster under Governor Hamilton's certificate no. 1737.
Frederick Post.....	298	E.H. 1	3 additional	Fredericksburgh	Described for Corporal Daniel McPherson and Albert Williams under General Haldimand's certificate no. 5157.
George Brooks.....	323	27	1	Thurlow	Described for James Richardson 21st March, 1797, upon land board certificate, 29th Dec., 1790, no. 154, Midland district.
Conrad Sills.......	329	1	1 additional	Fredericksburgh	Described for George and Lawrence Sills under Gen. Haldimand's certificate no. 5160.
Margaret Fraser.... Mary Ann Fraser.. Jane Fraser........	382	21 and 22	1 and 2	Pittsburgh	Lot 22 described for Captain Grass under Mr. Collins's certificate no. 4940.
Hugh McConnell...	389	E. ¼ 100	1	Ameliasburgh	Described for Chris. Katchbow and John Foster under Governor Hamilton's certificate no. 1737.

SURVEYOR GENERAL'S MINUTES OF SEARCH, MIDLAND DISTRICT—Continued

Claimant	No. of the Claims	Lot	Concession	Township	Observations
John Horning......	405	4	3	Kingston	The west half described and transferred from Captain Grass to John Horning upon General Haldimand's certificate no. 4922.
Joshua Booth......	420	14	5	Ernest town	Described for Nathan Briscoe, 3rd February, 1797, upon a land board certificate no. 125, Midland district.
Barnabas Wartman, Senior...........	445	W.H. 6	1	Kingston	Described for Lieutenant Ellarbeck upon General Haldimand's certificate no. 4911.
Mat Marsh........	461	½ 5	1	Sidney	West half described for Mathias Marsh under Mr. Aitkin's certificate no. 5112.
Bemsley Peters.....	462	103, 104	3	Ameliasburgh	Described for Bemsley Peters (under Mr. Motz's certificate) 22nd Feb., 1797, no. 294, Midland district.
Robert Macaulay... Thomas Markland..	210 211	W.H. 18	5	Fredericksburgh	Described for Archibald Thompson and Thomas Markland upon General Haldimand's certificate no. 5163.
Florence Donovan..	419	14	2	Fredericksburgh	Described for Captain Geo. Singleton and Jacob Cunes, upon General Haldimand's certificate no. 5161.
Michael Dederick..	435	19	1	Kingston	Described for Michael Dederick upon General Haldimand's certificate no. 4909. (Signed) D. W. Smith, Acting Surveyor General.
Thomas Markland..	78	17	Addenda 5	Richmond	Described for Melison Hover alias Ferguson upon a land board certificate no. 1643.
Mathew Howe.....	93	North or B.H. 5 and 10 acres from the south	1	Kingston	Described for Alexander Simpson and Barnabas Day under General Haldimand's certificate no. 4908.
Jacob Miller.......	119	½ 25	1	Ernest town	The eastern half has been described for L. Parrott under General Haldimand's certificate no. 5149.

SURVEYOR GENERAL'S MINUTES OF SEARCH, MIDLAND DISTRICT—Continued

Claimant	No. of the Claims	Lot	Concession	Township	Observations
David Bradshaw...	121	98	1 & 2	Ameliasburgh	Lot 98, 2nd concession described for the Honourable Richard Cartwright, 27th May, 1796, no. 1214 and it is supposed Mr. Cartwright has received the grant for it under the Great Seal.
John McKinlay....	131	¼ 3	3	Loughborough	Described for Thomas Armstrong under land board certificate no. 5164.
John Darley.......	135	20	3	Loughborough	Described for Christian Fairfax with Mr. Aitkin's certificate no. 5177.
James McMartin...	140	12	7	Camden	The west half described for Francis Ridden, 26th June, 1797, no. 118, Midland district.
William Johnson...	148	11	1	Thurlow	The east half described for Alexander Chisholm with Mr. Aitkin's certificate 15th April, 1789, no. 1648 and the west half described for Wm. Johnson upon Mr. Collins's certificate no. 5117
Richard Cartwright.	159	17	1	Camden	Described for Captain Oliver Church with Mr. Aitkin's certificate no. 5133. (Signed, D. W. Smith, A. S. G.)

Ordered that the Attorney General be directed to return into this office the certificates and descriptions of such of the within 38 allowed claims as he may not have issued his fiats on, and should the deeds on any still remain in his office, to send them also. The secretary to be likewise directed to send to this office without delay such deeds for the within mentioned 38 allowed claims as may not yet have passed the Great Seal, together with the Attorney General's fiats.

FURTHER OBSERVATIONS

No. of the claim	Claimant	Lot	Concession	Township	Observations
4	John Grant........	19, 20	E. Side Grand River	Cataraqui	Probably Pittsburgh.
7	Joseph Morey......	½ 5	2	Kingston	It is not mentioned which half.
6	John Darley.......	15, 16	E. Side Grand River	Cataraqui	Probably Pittsburgh.

FURTHER OBSERVATIONS—Continued

No. of the claim	Claimant	Lot	Concession	Township	Observations
24	John Stuart.......	¾ 18	3	Kingston	Not mentioned which ¾ths.
37	Donald McDonell..	15	E. Side Black River	Marysburgh	Probably south side.
38	" ..	16	"	"	"
40	" ..	14	"	"	"
41	John Gruer........	½ 18	2	Camden	Not mentioned which half.
43	Barnabas Day.....	½ 14	2	Kingston	" " "
45	Banjamin Seymour.	12 & ½ 13	4	Loughborough	" " " of 13
47 48	William Ward & Samuel Ward......	14, 16 & ½ 13	4	"	" " " of 13
61	Ebenezer Washburn	2	2	Sophiasburgh	Supposed to be in Hallowell. When Mr. Aitkin was called upon for the sevenths, he submitted to reserve this lot, not knowing it had been granted by Governor Hamilton previous to the division of the province, to one Phil Roblin, now ratified.
66	John Lawrence.....	S. end 29	1	Ernest town	Supposed to mean the south half.
82	James McKim.....	½ 22	1	Fredericksburgh	Which half?
87	Peter Vanalstine....	1	2, E. Side E. Lake	Marysburgh	Supposed to be in Hallowell.
97	John Fraser........	½ 23	2	Ernest town	Which half?
108	Joseph Herneclay...	57	1	Ameliasburgh	Perhaps Sophiasburgh.
111	Sarah Segar........	½ 10	2	Richmond	Richmond supposed to be east half, but see Joseph Forsyth's claim no. 265.
114	Davis Hawley......	26 or 1	2	Fredericksburgh	Probably not no. 1, as no. 1 is allowed to John Kemp, see 371 claim. 25 appears to be the last number in the township by the Quebec Plan.
115	Martin Hawley....	25	7	"	This lot appears to be afterwards allowed to a man of the same name. See claim no. 246.
117	Sheldon Hawley....	¼ 4	2	Ernest town	Which quarter?
118	Andrew Miller.....	N. end of 10	1	"	Supposed to be the north half.
120	David Bradshaw...	½ 20	5	Fredericksburgh	Which half?
122	Nicholas Amey	S.H. 20, H. 21	2	Ernest town	Probably the south halves of both.

FURTHER OBSERVATIONS—Continued

No. of the claim	Claimant	Lot	Concession	Township	Observations
126	Christopher Abrams	S. end 9	2	Ernest town	Supposed to be the south half, but the claim no 451, where this lot appears to have been allowed to John Sharp.
127	Isaac Asselstine....	S. end 8	2	"	Supposed to be the south half.
132	Jeptha Hawley.....	½ 18	1	"	Which half?
138	James Leake.......	½ 19	4	"	Which half?
144	Alexander Fisher...	½ 20	3	Fredericksburgh	Which half?
156	Richard Cartwright	½ 4	2	Camden	Which half?
158	" "	¾ 25 & 26	1	Marysburgh	Which ¾ths?
160 161 163 164 165 166	Mr. Cartwright....	Sundry	tracts in	Sophiasburgh	Probably Hallowell.
168	Seth Rainey.......	½ 10	3	Kingston	Which half?
169	"	50	1	Ameliasburgh	Probably in Sophiasburgh.
175	Micajah Purdy.....	¼ 7	2	Kingston	Which quarter?
181	Joseph Anderson...	3	E. Side Great River	Cataraqui	Probably in Pittsburgh.
184	Seth Rainey.......	50	1	Ameliasburgh	Probably Sophiasburgh, if so, this lot appears to have been allowed twice, to persons of the same name. See 169 claim.
187 & 188	John Cumming & Peter Smith.....	½ 13	5	Kingston	Which half?
198	Martin Frolic......	S.E. end 3, 50 acres	3	Ernest town	Perhaps the southern end, or the south eastern quarter.
208	Philip Pember.....	W. H. 20	1	Kingston	This lot appears afterwards to be allowed to George Buck, Junior, see 409 claim.
212	Archibald McDonell	½ 30	Bay Side	Marysburgh	Which half?
215	" "	33 40 acres	....	"	It is not mentioned which concession, or what part of the lot.
218	" "	W. S. 19, 50 acres	....	"	It is not mentioned which concession, or what part of the lot.
234	James Gilbert......	33, E. H. 22	4	Thurlow	By the Quebec Plan the numbers do not run so high as 33.
244	Ann Vanorder......	¾ 8	5	Kingston	Which ¾ths?

FURTHER OBSERVATIONS—Continued

No. of the claim	Claimant	Lot	Concession	Township	Observations
245	Martin Hawley....	N. E. ½ 30	5	Richmond	Perhaps the northern half or the north east quarter.
246	Martin Hawley....	25	7	Fredericksburgh	This lot appears to have been allowed before to a man of the same name, see his claim no. 115.
250	James Jackson.....	¾ 2	1	Ernest town	Which ¾ths?
251	George Forsyth....	8	East side Great River	Cataraqui	Probably in Pittsburgh.
265	Joseph Forsyth.....	½ 10	2	Richmond	It is not mentioned which half but note that half this lot, has been allowed to John Segar, for Sarah Segar, and again the west half of the same lot has been allowed to the same person. See claims nos. 109, 110, and 111.
267	“ “	½ 24	2	Sidney	Which half?
270	“ “	100, 150 acres	3	Ameliasburgh	It is not mentioned which part of the lot.
272	Samuel Babcock....	16 150 acres	4	Kingston	It is not mentioned which part of the lot.
282	Bruin Huff........	¾ 17	7	Ernest town	What ¾ths?
284	Bruin Huff........	9 50 acres	3	“	It is not mentioned which part of the lot, and see claim no. 469 where half this lot is allowed to John Barley.
292	Caleb Elsworth....	1, 2 & 3 West side East Lake	5	Sophiasburgh	It is apprehended there is some mistake in the concession, as it cannot be found out.
293	“ “	34	2	Sidney	This lot appears to have been allowed to two different persons.
303	Peter Irish........	50 acres E. of 20	4	Ernest town	Supposed to be east quarter.
337	Jacob Dimmond....	W. H. 5	5 additional	Fredericksburgh	This lot appears to have been allowed before to John Scharmahorn. See his claim no. 221.
221	John Scharmahorn..	5	5 additional	Fredericksburgh	Afterwards the west half allowed to Jacob Dimmond, as above last stated, under claim no. 337.

FURTHER OBSERVATIONS—Continued

No. of the claim	Claimant	Lot	Concession	Township	Observations
339	John Woodcock....	11	4 additional	Adolphustown	Not immediately knowing what is called the additional in Adolphustown, it is apprehended there is some mistake in the township, which it is conjectured should be Fredericksburgh.
340	Paul Peterson......	6	2	"	" "
341	Henry Lloyd.......	E.H. 17	2	"	Should the foregoing be a mistake, this probably ought to be Fredericksburgh too.
342	Daniel Lloyd......	12	2	"	" "
343	Samuel Detlor.....	E. H. 2	3 additional	"	The same remark as upon the 340 and 341 claims.
356	Catherine Smith....	20 & ½ 21	3	Sidney	Which half?
363	Andrew Embury...	¼ 4	3 additional	Fredericksburgh	Which quarter?
364	Zenos Ross........	¾ 4	3 additional	"	Which ¾ths?
368	John Embury......	14	6	Richmond	When Mr. Aitkin was called upon for the sevenths, he thought to have reserved this lot, but it was discovered to have been granted to one Michael Barclay and now ratified.
376	Owen McGrath....	½ 13	2	Richmond	Which half?
379	Alexander Clarke...	¾ 42	1	Sophiasburgh	Which ¾ths?
388	Hugh McConnell...	W. H. of 99	1	Ameliasburgh	When Mr. Aitkin was called upon for the sevenths he proposed to reserve this lot for the Crown, it being apparently vacant, but not knowing although suspecting it had been located.
397	William Kitcheson..	15 & ½ 16	6	Sidney	Which half of 16?
398	" " ..	½ 9	2 additional	Fredericksburgh	Which half of 9?
409	George Buck, Junior	20	1	Kingston	The west half of this lot appears to have been allowed before to Philip Pember under the 208 claim.
417	Elisha Philips......	¼ 18	3	Fredericksburgh	Which ¼?
422	William Yourex....	¼ 8	5	Kingston	Which ¼?
430	Timothy Thompson	2 and 50 acres with rear of said lot	1	Fredericksburgh	Probably meaning the southern quarter of lot no 2, second concession.
436	Soloman Ball......	½ 3	4	Ernest town	Which half?
439	William Walker....	½ 22	4	"	Which half?

FURTHER OBSERVATIONS—Continued

No. of the claim	Claimant	Lot	Concession	Township	Observations
442	John Stober.......	West ½ 20 with ½ 21	2	North end of east side of lot and 50 acres of north end.	Which half? It is desirable to have further information, to elucidate the limits and situation of the lands allowed.
446	Barnabas Wartman, Junior..........	½ 17	6	Kingston	Which half?
447	John Balie.........	18		5 or Marysburgh	Concession is not mentioned.
451	John Sharpe.......	9	2	Ernest town	The south end of this lot appears to have been allowed to Chris. Abrams on the 126th claim.
456	Mathew Pruyn.....	W. H. 3	1	Marysburgh	The embayed situation of Marysburgh affording more than one front concession, and consequently more than one no 3, it is desirable to have further information in regard to this land.
257	Anthony Austin....	½ 37	1	Sidney	Which half?
460	Mathias Marsh....	½ 4	1 & 2	"	Which half?
465	Bemsley Peters.....	¼ 25	5	Loughborough	Which ¼?
469	John Burley.......	½ 9	3	Ernest town	The which half is not mentioned and it appears that 50 acres of this lot was allowed to Bruin Huff, by claim no. 284.
474	William Fairfield, Senior...........	¼ 36	1	"	Which quarter?
476	Nicholas Peterson..	17	3	Adolphustown	This lot appears to have been allowed also to one, Nicholas Peterson, claim no. 150.
150	Nicholas Peterson..	17	3	Adolphustown	Allowed also by the claim no. 476, which see immediately last above.

(Signed) D. W. Smith,

Acting Surveyor General.

Ordered that the Attorney General be directed to suspend issuing his fiats upon the 101 claims noticed in the within observations, until the commissioners shall have an opportunity of giving the requisite explanations.

(Signed) P.R.

John Dennis, shipbuilder. Read the Surveyor General's report on John Dennis's petition and ordered that the lot prayed for be surveyed and a report made to this board how it may affect the King's mills.

Adjourned.

12th January, 1798.

Council Chamber, York.

Present: The Honourable John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. D. W. Smith, Speaker of the Lower House.

Read the following petitions:

Richard Sharp. Praying for a town lot in York. Recommended for a town lot in York.

Albert Rykman. Praying for 200 acres of land. Recommended for 200 acres if not granted before.

John Rykman. Praying for lands as a reduced lieutenant in the Indian Department. Recommended for 2,000 acres including former grants as a subaltern. His wife also recommended for 400 acres as daughter of a subaltern, U.E.

Eunis Rykman. Praying for lands as a loyalist. Recommended for 200 acres.

Hugh McLean. Praying for a further length of time to comply with the conditions prescribed to those who hold lots upon Yonge Street. Recommended that the petitioner be allowed 12 months from this date to comply with the terms on which the lot was granted.

Lieut. Allan McNabb. Praying for family lands. The Executive Council regrets that it cannot accede to the prayer of this petition, consistently with the general rules established with respect to the grants of lands.

Hanah Owen Jarvis, by her father, William Jarvis, Esq. Praying for 1200 acres of land. Recommended that Hanah Owen Jarvis be put on the same footing with the other children of the secretary.

Adjourned.

29th January, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. AEneas Shaw, Hon. D. W. Smith, Speaker, Lower House; Hon. John McGill.

Read the following petitions:

William Berczy. Praying leave to surrender the town lot which he occupies, and that he may have a grant of lot 3 on the south side of Market Street in lieu. Ordered that the prayer of this petition be granted.

Miss Eliza Russell. Praying for the north west quarter of the 2nd block in the front range of blocks in the town of York, late in the occupation of Mr. William Berczy and this day surrendered in Council in addition to the S.W. quarter of the same block formerly assigned to her. Ordered that the prayer of this petition be granted.

Nathaniel Taylor, Esq. Praying for 600 acres in addition to 600 acres he has received and a town lot in Kingston. Ordered, that a town lot in the town of Kingston be granted to the petitioner.

Jacob Cozens. Praying for lands as a settler. Ordered to be confirmed in the lot assigned to the petitioner on Yonge Street when he complies with the conditions.

Alexander Campbell. Praying for a town lot in Adolphustown. Ordered that a town lot be granted to the petitioner in Adolphustown when the town plot thereof shall be returned to the office.

Archibald Campbell. Praying for a town lot in Adolphustown. Ordered to be granted when the plot of the town shall be returned to the office.

John Warren, of the county of Prince Edward. Praying for a reserved lot adjoining lot 43 on the bay near Green Point, Bay of Quinté. Referred to the Surveyor General to report.

Margaret Wright. Praying for lands as the daughter of a U.E. Loyalist. The prayer of this petition cannot be granted as far as relates to the reserved lot. Answered on the back of the certificate.

Order of Council. Ordered that the Surveyor General be directed to cause a town to be laid off on the ground reserved for that purpose at Turkey Point and a plot thereof returned to this board.

(Signed) Peter Russell.

Myndert Harris. Praying for the broken fronts of the lot whereon he resides and for an addition for his military lands as a serjeant. Likewise for lands for his wife and nine children. It appearing by certificate produced this day that His Excellency Lieut. Governor Simcoe promised 1800 acres to the petitioner. Ordered that 600 acres be granted to him in addition to the 200 acres already ordered him. N.B.—This grant does not come within the new regulations.

Richard Lawrence. Praying for lands for his wife, the daughter of a loyalist. Ordered that 200 acres be granted to the wife of the petitioner, the daughter of a U.E. Loyalist, if not granted before.

Levinia Mabee. Stating that her husband came into the province about six years ago and died soon after without ever having his lands confirmed, that she occupies lots 8 and 10 in front of the township of Charlotteville, prays to be confirmed in said lots, and for a small slip of about 17 or 18 acres for sugar ground, there being a number of maple trees on it—also for the marsh in front of lot 8. Ordered that the two lots prayed for be granted to the petitioner. Reference to be made to the Surveyor General with respect to the other parts of the prayer.

Joseph Lutes. Praying for a town lot in the town of York. Ordered a lot in the town of York on the usual conditions.

Lawrence Johnson. Praying to be admitted as a U.E. Loyalist and to have his name put on the list. Ordered to be admitted to be enrolled on the U.E. List, and notice thereof sent to the different offices.

John McLaney. Praying to be admitted as a U.E. Loyalist and to have his name enrolled on the U.E. List. Ordered that the petitioner be admitted to the U.E. List, and notice thereof sent to the different offices.

George Porter. Praying for a town lot in York. Ordered a town lot in the town of York.

William Willcocks. Praying to have his town lot made up an acre. Ordered that the petitioner's lot in York be made up an acre.

Ephraim Holland Payson. Praying leave to resign lot 15 in fourth range of the town of York. Permission granted.

David W. Smith, Esq. Praying that a deed may issue in his own name for lot 21, 2nd concession of York, which he purchased from Abner Miles. Permission granted for the transfer requested.

James Ruggles. Stating that he is a nephew of the late General Ruggles and praying for lands. Ordered that a warrant of survey issue to the petitioner for the 1200 acres which he was permitted to occupy in 1796.

Jonathan Scott. Praying for lot 16 in the 4th range of the town of York. Ordered that the prayer of this petition be granted.

Adjourned.

5th February, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. AEneas Shaw, Hon. John McGill.

Read the following petitions:

Benjamin Mosely. Praying for a town lot in York. The board having refused town lots to persons under the same circumstances with the petitioner is obliged to refuse the prayer of this petition.

Nicholas Klingenbrunner. Praying for a town lot in the town of York. Ordered a town lot in York.

Peter Tenbroeck. Praying for lands in addition to 3000 acres which he received as military lands. The board is extremely sorry it cannot comply with the prayer of this petition.

Patrick Mealey. Praying for a town lot in York. The prayer of this petition cannot be granted.

B. C. Beardsley. Praying for a town lot in Newark. Ordered a town lot in Newark.

Samuel P. Broome. Praying for a grant of two townships and to consist of 64,000 acres each. The petitioner has been misinformed respecting the intentions of this board. The prayer of petition inadmissible under the existing resolves of this board.

John McKay, of Newark. Praying for 200 acres of land which adjoins a mill seat which he has purchased. More than 1200 acres is not within the power of this board to give without His Majesty's permission. The prayer of this petition cannot therefore be granted.

Isaac Whiting. Praying for lot 14, 1st concession Townsend which he has made improvements on. Referred to the Surveyor General to report.

Gideon Humsted [Omsted]. Praying for 400 acres of land as a settler. Ordered 200 acres in addition to the 200 acres already granted under the new regulations.

Maurice Roach. Praying to be confirmed in his location. To be confirmed in the location petitioner has chosen for himself if there are no prior claims.

Ely Playter. Praying for a small piece of ground on the Don consisting of eight acres or thereabouts, and which separates him from the river Don. The land prayed for already granted.

George Porter. Praying for a small piece of ground on the river Don containing about 8 acres. The lands prayed for already granted.

J. Mervin Nooth, Superintendent General. Praying for lands as a military claimant, having served last American war as Superintendent General of the hospitals, and to have the quantity generally allowed field officers. No military or other claims having been admitted except from those who have appeared in person to prefer them. No answer can therefore be given to this petition before the appearance of the petitioner. The board cannot, however, give any encouragement to an expectation of large grants, unless the petitioners claiming them for former services should determine to become permanent settlers of this province.

Thomas Tivey. Praying for a town lot in the town of York. The prayer of this petition cannot be granted.

Joshua Leech. Praying for a town lot in the town of York. Ordered a town lot in the town of York, the above rule to be observed respecting the grant of a farm lot.

Samuel P. Broome. Praying to have the township which was reserved for Robert Nugent confirmed to his heirs, and also that 1200 acres may be granted individually to his children.

Upon reference to the order of Council upon which this petition is founded, it appears that 64,000 acres were to be reserved for two years from the 4th of August, 1795, for Mr. Nugent, to be settled by him by natives of Europe. But the period of the reserve being expired, the petitioner's claim is done away. The children of the deceased Mr. Nugent will receive the quantity of land promised them whenever they become permanent settlers of this province, further than which the faith of Government has not been pledged.

MINUTES OF SEARCH

No. of Claim	Claimant	Lot	Concession	Township	Observations
1	John McKinley, Esq.	11	1	3rd township	Query? Whether the 3rd on the St. Lawrence or on the Ottawa River. Probably on the latter now called Alfred.
5	“	8	1	5th “	Query? Whether the 5th on the St. Lawrence or on the Ottawa river? Probably on the latter now called Clarence, formerly York.
16	“	½ 5	7	Edwardsburgh	It is not mentioned which half.
21	“	13	1	1st south side, the river Rideau	Supposed to be no. 13 on the east side of the river Rideau in the township of Gloucester.
22	“	11	1	East side, the river Rideau	Supposed to be no. 11 on the east side on the river Rideau in the township of Gloucester.
26	“	30	2	4th township, south side	Supposed to be on the south side of the Ottawa river, now called Plantagenet.
27	“	14	1	“ “	“ “
28	“	E.H. 18	1 & 2	“ “	“ “
29	“	25 & 26	1	3rd township	Supposed to be on the south side of the Ottawa river, now called Plantagenet

MINUTES OF SEARCH—Continued

No. of Claim	Claimant	Lot	Concession	Township	Observations
34	John McKinley, Esq.	16	11	Cornwall	This must be no. 16 in the 2nd concession of Roxborough and if so, has been described for a John Cameron under Mr. Collins's certificate no. 3155.
35	“	25	2	5th township	Query? Whether on the St. Lawrence or on the Ottawa river, probably on the latter, now called Clarence, formerly York.
36	“	11	1	7th “	Query? As before, if right, the township now called Gloucester.
37	“	14	1	“ “	“ “
38	“	14	1	6th “	Query? As before, if right, the township now called Cumberland.
40	“	37	1	3rd “	Query? As before, if right, the township now called Alfred.
41	“	2	15	Cornwall	This must be no 2 in the 6th concession of Roxborough.
42	“	13	1 & 2	4th township	Query? Whether the 4th on the Ottawa or St. Lawrence River. Probably on the former 4th now called Plantagenet.
44	Robert McAulay, Esq.	½ 21 containing 150 acres.	1	1st township below Pittsburgh.	This must be Leeds, but which half?
45	“	22	2	1st township below Kingston.	Perhaps below Pittsburgh for the 1st township below Kingston is Pittsburgh, which is in the Midland district.
46	“	23	2	“ “	“ “ remark.
	Observations on the allowed claims in Kingston.				
26	John Stuart	14	....	Kingston	This lot appears to have been allowed to two different persons.
209	Thomas Markland	14	&c	“	“ “
167	Richard Cartwright	29	&c	“	“ “
193	Samuel Anesley	29	&c	“	“ “

Surveyor General's Office,

15th January, 1798.

(Signed) D. W. SMITH, A. S. Gen'l.

Ordered that the Attorney General be directed not to issue his fiats on the description reported to have passed the Surveyor General's Office, and to suspend the other nineteen claims noticed in the within observations until the commissioners shall have an opportunity of giving the necessary explanations.

Adjourned.

7th February, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. AEneas Shaw, Hon. John McGill, Hon. D. W. Smith, Speaker to the Lower House.

Read the following petitions:

Daniel Teirs. Praying for a town lot in York. Ordered a town lot in York on the usual conditions.

Andrew Heilien. Praying for a town lot in York. Ordered a town lot on his taking the Oaths of Allegiance, &c.

John Dennis's petition read again. It appearing from the information of Mr. McGill that the Lieut. Governor wished that the ground prayed for may not be granted, and it being apprehended that a lease might defeat the Governor's purposes equally with a grant. Resolved that neither grant nor lease of that land shall as yet take place, but Mr. Dennis will not be restricted from building vessels on any part thereof he may find convenient to his purpose.

Adjourned.

12th February, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. AEneas Shaw, Hon. John McGill, Hon. D. W. Smith, Speaker to Lower House.

Read the following petitions:

Captain Francis Stephenson. Praying for lands as a captain, having only received 750 acres in New Brunswick and also for lands for a wife and nine children. Ordered that the proportion of land to which the petitioner is entitled as a reduced captain be granted him in this province after deducting the 750 acres which he received in New Brunswick.

Abel Stevens. Praying for a certain fall of water on the outlet of the Gananoque lake, which he hath long petitioned for in order that he may be enabled to erect a furnace to carry on iron works and for so much lands around the said falls for the use and accommodation of the said works as may be thought expedient and also for the persons concerned in carrying on the said manufactory.

Whenever the King's permission arrives, the prayer of this petition to be taken into consideration and the petitioner to be considered as having the first claim.

Adjourned.

14th February, 1798.

Council Chamber, York.

Present: His Honour Peter Russell Esquire, President; Hon. AEneas Shaw, Hon. David W. Smith.

Abel Stevens. Appeared personally and laid before the Board a list of settlers, as under, settled in the townships of Kitley and Bastard.

A LIST OF PERSONS SETTLED IN THE TOWNSHIP OF KITLEY

Names	Lots	Concession	Remarks
Solomon Conolly	27	10	Absent, but family in the settlement.
Asa Benjamin	29	10	In the settlement, waiting to be confirmed in a lot.
Solomon How	22	10	In the settlement with his family, waiting to be confirmed in a lot.
John Kincaird	24	10	" " "
Ethan McCollom	30	10	On the lot.
John Dodge	20	9	Dead.
Ephraim Koyle	26	9	On the lot with his family.
Edward Haws	23	9	Dead, but family on the lot.
Levy Soper	21	9	On the lot with his family.
Thomas Hubbard	19	9	On the lot with his family. See Commission's 1st Report in 1803 and letters to Acting Surveyor General, 17th and 18th Oct. 1809.
Solomon Soper	20	8	" " "
Claudius Ducolon	19	8	" " "
Elizabeth Haskins	16	9	United Empire Loyalist, in the settlement waiting the confirmation.
John Wood	24	9	On the lot with his family.
Ebenezer Pratt	25	8	" " "
Benjamin Randall	29	8	In the gore with his family waiting to be confirmed in the lot.
Stephen Nettleton	21	7	Absent.
Richard Finch	25	7	Absent, but has cleared 3 or 4 acres on it.
Nicholas Haskins	30	8	On the lot with his family.
Thadeus Carter	28	9	Absent, but family in the settlement waiting to be confirmed in the lot.
Henry Finch	25	10	Absent, waiting to be confirmed in the lot before he improves.
Benjamin Andrews	18	8	Absent waiting to be confirmed in the lot.
John Stone	27	6	" " "
Jacob Thomas	25	6	" " "
Henry Miller	22	6	" " "
Prince Sherman	24	6	On the lot with his family.
Alfred Stevens	28	8	Son of Abel, located in the township of Bastard.
Elishua Stevens	17	6	" " "
Samuel Kilburn	30	9	On the lot with his family.
John Gilmore	30	6	Absent, waiting to be confirmed in the lot.
Thomas Stevens	29	6	" " "
Benedict McCollom	18	9	
John Livingston	26	7	Improving the lot and building a mill on it.
James Dunn	25	7	In the country waiting to be confirmed in the lot.
Jabez Eaton	25	7	In the settlement with his family.
Amy Stevens, U.E.	25	7	" " "
Esther Thomps	25	7	" " "
Jeremiah Day	25	7	In the settlement with large family.

York, 14th Feb. 1798,

(Signed) ABEL STEVENS.

Sworn before me this 14th day of February, 1798.

(Signed) D. W. SMITH, J.P.

A LIST OF SETTLERS SETTLED IN THE TOWNSHIP OF BASTARD

Names	Lots	Concession	Remarks
Timothy Smith	9	8	On the lot.
Moses Rose	1	10	On the lot and family.
Samuel Sheldon	7	10	On the lot with his family.
Jane Lake	6	10	On the lot.
John Yates	9	10	On the lot with his family.
William Patterson	13	10	Dead, family on the lot.
William Paterson, Junior	14-15	10	On the lot with his family.
Uriah Stevens	8	10	Son of Abel on the lot.
Abel Stevens	10	10	On the lot.
Abel Stevens	11-12	10	“
Isaac Stevens	23	10	Son of Abel on the lot.
James Carley	24	10	Absent, waiting to be established in the lot.
Moses Stevens	1	9	Has a house and ten acres cleared.
Elisha Stevens	6	9	On the lot with family.
Penuel Stevens	8	9	On the lot and family.
Enoch Huntley	9	9	On the lot with his family.
Roger Stevens	2	9	“ “
Joseph Day, Junior	12	9	Dead, family on the lot.
Archibald McNeil	18	9	Absent, family in the settlement waiting to be confirmed in the lot.
William Stevens	5	9	On the lot with his family.
Joseph Day	17	9	“ “
Darius Crippen	4	9	“ “
William Day, Junior	13	9	Absent in the settlement, waiting to be confirmed, having made considerable improvements.
Jehiel Mitchel	3	9	On the lot with his family.
Daniel Philips	1	8	Absent, in the settlement, waiting to be confirmed.
Samuel Scovell	7	8	On the lot with his family.
William Titus	13	8	“ “
Archibald McNeil	17	8	Waiting to be confirmed in this lot.
William Day	12	8	Waiting to be confirmed, has improved on the lot.
Lovell Beech	6	8	Absent, waiting to be confirmed.
Daniel Day	14	8	Dead, made some improvement.
Betty Stevens	2	8	On the lot.
David Lee	6	7	On the lot with his family.
Adam Shook	5	7	On the lot.
Reuben Wait	7	7	“
Joseph Peese	8	7	Absent, waiting to be confirmed in the lot.
Benjamin Huntley	1	6	This lot said to be reserved, he asks another.
Jehiel Smith	13	7	On the lot and family.
Gideon Sheldon	14	7	On the lot with his family and made considerable improvements.
Richard Day	15	7	On the lot with his family.
Abel Stevens, Junior	11	7	“ “
Solomon Story	18	7	“ “
George Lane	10	7	On the lot improving it.
Eunice Stevens, Junior	16	7	Daughter of Abel, on the lot.
Eliphalet Tutle	6	6	Absent, has cleared about 3 acres.
Ami Chapman	13	6	On the lot with his family.
Elias Chamberlain	12	6	“ “
Henry Stevens	11	6	“ “
Daniel Stevens	9	6	“ “
Richard S. Adams	17	6	“ “
Philip Shook	3	6	“ “
Caleb Seaman, Junior	15	6	“ “
Joseph Edmonds	22	6	“ “
Daniel Adams	14	6	On the lot.
Sarah Buck, U.E.	19	6	Absent, has a family and waits to be confirmed in the lot.
Mary Brown (daughter of John McIlmoil)	7	6	Absent, is a U.E. Loyalist and waits to be confirmed.
Job Barden	2	6	Absent, has a family.
Dennis Burgess	18	8	On the lot with his family.
Joseph Slosen	20	6	Absent.

A LIST OF SETTLERS SETTLED IN THE TOWNSHIP OF BASTARD—Continued

Names	Lots	Concession	Remarks
Abraham Stevens	9	7	On the lot with his family.
Stephen Howard	20	8	" "
Peter Howard	20	7	Absent, has a family in the settlement and waits to be confirmed in the lot.
John Farnum	21	9	On the lot with his family.
Zacheus Perry	24	6	Absent.
Lydia Stevens	12	7	On the lot.
Alexander Ferguson	4	10	On the lot with his family.
Whitfield Paterson	23	6	On the lot.
David Edmonds	21	6	"
David Henderson	25-26	10	On the lot with his family.
William Livingston	7	9	" "
Jeremiah Fraser	4	8	Absent, has a family and waits to be confirmed.
Daniel Corbin	22	10	On the lot with his family.
Truman Heecock	22	8	" "
Henry Morrison	15	8	Absent.
David Stevens	14	8	Son of Abel, is in the township.
David Jones	24	7	Absent.
Jonathan Henderson	24	8	Waits to be confirmed.
Sarah Stevens	21	7	Daughter of Abel, in the township.
Meriam Stevens	19	7	" " "
Abel Stevens	22, 23 & 24	9	Improving the lots and has built mills on them.
Henry Smith	2	6	Job Barden claims the lot and H. Smith asks another.
Archelaus Farnum	29	8	On the lot.
William Sly	These	per-	Has a large family.
Samuel Fish	sons h	ave no	
Edward Soper	lands c	onfir-	
Seth Warner	med to	them.	
Calvin Clifford		"	
Ezra Churchill		"	Has a large family, 10 children.
Ephraim Story		"	Has a family.
Mary Fish, U.E.		"	"
Dradoma Haskins		"	"
Sister of A. Stevens, U.E.		"	

(Signed) ABEL STEVENS.

Sworn before me this 14th day of Feb. 1798.

(Signed) D. WILLIAM SMITH, J.P.

Confirmed the same as for Kitley.

(Signed) PETER RUSSELL.

Read the following petitions:

William Casewell. Praying to be confirmed in a reserved lot which he has through mistake improved and settled on, in the rear part of the township of Lansdowne. If the lot 10, 12 con., has not been yet applied, the Surveyor General is hereby authorized to remove it and reserve another lot in lieu.

John C. Stookes. Praying for a town lot in York. The petitioner has too much misbehaved to be indulged with a town lot.

John Smith. Praying for an addition to 200 acres which he has received. Ordered 200 acres in addition under the new regulations when they shall be established.

John McLaney. Praying for a town lot in the town of York. Ordered a town lot on the prescribed conditions.

George McBride. Stating his having served four years in the 24th Regiment and praying for lands. Ordered 300 acres under the new regulations when they shall be established.

Dorothy Porter. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist if not granted before.

Martha Dennis. Praying for lands for herself and eldest daughter as U.E. Loyalists. Ordered 200 acres as a U.E. Loyalist, also petitioner's daughter Elizabeth 200 acres as the daughter of a U.E. Loyalist.

Elizabeth Fredericks. Praying for lands as the daughter of a loyalist. Ordered 200 acres as a U.E. Loyalist, if it appears from the list the petitioner is entitled.

Antoine Dejardin. Praying for a town lot in York. Ordered a town lot in York on the prescribed conditions.

John Dennis. Praying for a town lot in the town of York. Ordered a town lot in York on the prescribed conditions.

Peter O'Chu. Praying for a town lot in the town of York. Ordered a town lot on the prescribed conditions.

Louison Fornier. Praying for a town lot in the town of York. Ordered a town lot on the prescribed conditions.

John French. Stating that he served in the British Navy from the year 1776, till the year 1797 when he was discharged, being 56 years of age and infirm. That during the time he was employed, he was in several actions, wherefore prays for lands, he having a wife and family in England which he expects will soon arrive in this province. Ordered 400 acres under the new regulations when they shall be established.

Cornelius Benson. Stating that his brother John has a warrant of survey for 200 acres, and is desirous of locating the same in Hamilton where your petitioner has a lot, and to place his warrant on lot 6, 1st broken front, containing about 145 acres, the lot in the rear thereof being entire, though constituting a part of the same broken front is possessed by Abner Stevens. Prays that his said brother John may be allowed the 1st broken front lot 6 above mentioned on which your petitioner had formerly cleared 3 acres. Also prays for a town lot in the town of York. Ordered a town lot on the prescribed conditions. The Surveyor General to direct the person on the lot prayed for to make his selection of the lot in the 1st concession on the broken front, the latter being too large a quantity to be thrown in.

Joseph P. Cass. Stating that he served last war in Sir John Johnson's Regiment, and prays for lands as a military claimant. Ordered 300 acres as a discharged soldier from Sir John Johnson's Regiment, if none have been granted before.

Susannah Covell. Praying for lands as the daughter of a captain. This petition to lie over for consideration after the new regulations. Had this petition come forward in time the petitioner would have received 600 acres if her father had been a captain in the King's service.

Barnabas Conat. Praying for lands as a settler. Ordered 200 acres under the new regulations when they shall be established.

Josiah Cass. Praying for lands as a U.E. Loyalist and past services. Ordered 200 acres of land as a U.E. Loyalist if not granted before.

Jacob Clayton. Praying for lands as a reduced soldier. Ordered 300 acres as a reduced soldier.

Elishu Cass. Praying for lands as a reduced soldier. Ordered 300 acres as a discharged man from Sir John Johnson's Corps if none have been granted before.

Bernard Carry. Praying for lands, and to be put on a footing with the U.E. Loyalists. Ordered to be put upon the same footing with Mr. Coxe and 100 acres in addition for family lands in all 600 acres, the petitioner being a U.E. Loyalist and recommended by his Grace the Duke of Portland.

Abel Stevens. Praying for a tract of land to erect iron works on and for several persons who intend removing into this province with him who are to work at the manufacture of iron, viz., 1200 acres for the use of the works, 600 acres for Ruel Keith, and 200 acres each for Jonathan Keith, Unite Keith, Union Keith, Rufus Wetheral, William Wetheral, Rufus Leach, Spencer Smith, James Walker, Cyrenius Brown, Joram Wheeler, John Austin, Nathan Gibbs, Thomas Gibbs, Cornelius Gibbs, Nathan Gibbs, Junior, Ebenezer Gibbs, Nathaniel Perry, Luke Reid and Scotland Keith. To lie over for consideration after the new regulations are established, and the Surveyor General to reserve for the present the quantity of land prayed for as near to the wishes of the petitioner as circumstances will admit.

Adjourned.

26th February, 1798.

Council Chamber, York.

Present: Hon. AEneas Shaw, Hon. John McGill, Hon. D. William Smith,

Read the following petitions:

Jacob Haugh. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Smith. Praying for lands as a settler. Recommended for 400 acres subject to the new regulations.

John Snider. Praying for lands, having only received 100 acres. Recommended for 100 acres subject to the new regulations.

Jeffery Watson. Praying for lands under the new regulations. Recommended for 200 acres subject to the new regulations.

John Wheaton. Praying for lands in addition. Recommended for 200 acres in addition subject to the new regulations.

Frederick Fisher. Praying for lands as an Indian interpreter. Recommended to be made up 600 acres what he is to receive subject to the new regulations.

John Quick. Praying for lands under the new regulations. Recommended for 200 acres under the new regulations.

Philip Huckleberry. Praying for lands as a settler. Recommended for 200 acres if he has had none before, but subject to the new regulations.

John Little. Praying to be confirmed in a purchase of a land board certificate from one Patrick Hill, and that the lands specified therein may be assigned to him. Recommended as the within transfer appears to be a fair one that a deed do issue to John Little.

William Harffy, Junior. Praying for lands as a settler. Recommended for 200 acres subject to the new regulations.

Mathew Dolson. Praying for an addition to 200 acres which he has received, having served last war as a volunteer in Col. Butler's Corps of Rangers. Recommended to be made 400 acres the part of which he is to receive subject to the new regulations.

Robert Innis, merchant, Detroit. Praying for a grant of lands. Recommended for 600 acres to put him on a footing with others in his situation, but subject to the new regulations.

James Underston. Praying for a grant of the waste lands of the Crown. The petitioner's commission must be produced of his having been a master, to authorise any extention of grant beyond a single lot, and then only (as the petitioner has been so late in coming forward) can it be made except under the new regulations.

Mary O'Neil. Praying for lands as the daughter of a lieutenant. The same answer to this petition as to that of Lieut. O'Neil's other daughter Margaret Johnson.

Margaret Johnson. Praying for lands as the daughter of lieutenant and a U.E. Loyalist. If the petitioner is a U.E. Loyalist she will receive the quantity of land she is entitled to, being 200 acres, if only the daughter of a lieutenant, upon proper certificates being produced she will receive the quantity alloted to that description under the new regulations.

William Parkes. Praying for a town lot in Kingston. Ordered a town lot in Kingston.

William Park. Praying for a town lot in Sandwich. Recommended to be granted.

Richard Pollard, Esq. Praying for a further grant of land. Recommended that the petitioner's land may be made up 1200 acres and what he is to receive if any to be subject to the new regulations. The committee is sorry that they cannot recommend the removal of the reserves which the petitioner asks for.

John Pardoe. Praying for lands as a reduced soldier. Recommended that the petitioner's land be made up to 300 acres.

Joseph Jackson. Praying for lands as an Indian interpreter. Recommended to be made up 600 acres. What he is to receive subject to the new regulations.

George Jacob. Praying for lands for himself, wife and five children, having only received one hundred acres. Recommended for 400 acres in addition subject to the new regulations

Letter dated Register's Office, 22nd Feb., 1798.

Sir,—

I avail myself of the earliest opportunity of informing your Honour, that the five Indian grants which have been recently transmitted to this office from York vary so materially from the patents heretofore made out for lands that I find it wholly impracticable to have them registered in either blank book of registry now in the register's office. Consequently cannot be issued to the several patentees. I shall wait your Honour's instructions relative to the further disposal of the grants and shall hope to receive them by the first conveyance.

I have the Honour to be,
Your Honour's, &c.
(Signed) William Jarvis,
Register, U.C.

His Honour the President.

Recommended that the register be directed to provide himself with a blank book wherein to register the deeds in question without loss of time.

Timothy Murphy. Stating that he received a lot of land from the land board of Nassau in the settlement of Long Point, where he built a house and made improvements, and being afterwards called on by Col. McKee to accept the appointment of Indian blacksmith at Detroit, leased the premises. That he has since found the lot has been granted to one Edward McMichael who has ousted his tenant, and is about to obtain the King's grant for the same, wherefore prays for relief in the premises. This petition cannot be taken up upon the bare assertion of the petitioner who must produce the land board's order, with the surveyor's specification or assignments of the spot he was authorised to occupy. It has appeared McMichael has a patent for the lands.

Alex. McCormick. Praying for lands for himself, wife and seven children, having served last American war. Recommended for 400 acres under the new regulations and if it appears that he has had none before.

Cornet Thomas Merrit. Praying for a town lot for himself and one for his wife Mary Merrit in the town of Newark. Recommended to be granted one acre each on the usual conditions.

John McLean. Praying for lands as a reduced soldier The petitioner's discharge is wanted.

Hugh Monteith. Praying for lands as a settler. Recommended for 200 acres under the new regulations.

Peter Mallet. Praying for lands as a settler. Recommended for 200 acres under the new regulations.

Ebenezer Lovelace. Praying for lands as the son of a lieutenant and for a wife and two children. Recommended for 400 acres as the son of a lieutenant subject to the new regulations, and if it appears he has not received any before.

John Lipps. Praying for lands as a settler. Recommended for 200 acres subject to the new regulations.

Nicholas Laselle. Praying for lands as an Indian interpreter. Recommended to be made up 1200 acres as an interpreter, what he is to receive to be subject to the new regulations.

John Everson. Praying for a town lot in the town of York. Recommended for a town lot on the usual conditions.

Neil Elsworth. Praying for lands as a settler. On Mr. Booth's letter, recommended for 200 acres under the new regulations.

William Chambers. Praying to be confirmed in two lots in Saltfleet on which his name appears. Recommended, that if the faith of Government appears pledged to the petitioner by his having been entered upon the plan of record sent from Quebec and that petitioner has received no other lands, he may be confirmed in his location.

John Clearwater. Praying for lands as a reduced soldier, having only received 114 acres Recommended that the petitioner's land may be made up 300 acres as a reduced soldier in 1783.

Robert Gouin. Praying for lands as a settler The petitioner must reside within the province before his petition can be attended to.

William Graham. Praying for lands as a discharged soldier. Recommended for 300 acres as a discharged soldier from a provincial corps in 1783.

Farquhar McDonell. Stating that he purchased David Ketcham's right as a loyalist and a soldier and located them in the townships of Osnabruck and Williamsburgh except 100 acres. Wherefore prays that the remaining 100 acres may be granted him. Referred to the commissioners. If Ketcham has any further claims as a soldier he must come forward himself and assert them.

Read the following paper:

Detroit, December 20th, 1793.

Land board of the counties of Essex and Kent:

Permission is hereby given to Andrew Ulcoch to erect a mill on lot 1 New Settlement, Lake Erie, for the benefit of the inhabitants of that settlement and also occupy a small tract of land on the east side of the creek, supposed to be about 25 yards in breadth for the convenience of the mill seat.

(Signed) R. England, President.
Montigny.

Recommended for confirmation, J. Small, C.E.C.

28th February, 1798.

Council Chamber, York.

Present: Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Read the following petitions:

James Covell. Praying for lands in addition to 100 acres which he has received. Recommended for 100 acres in addition if his father is on the U.E. List, and should he be, as it is imagined he is, the son of a captain he may come forward, should he be so minded, for 400 acres besides, under the new regulations.

Nicholas Cook. Praying for lands for himself, and for his wife as the daughter of a U.E. Loyalist. Recommended for 200 acres under the new regulations. Certificate of his wife being a U.E. Loyalist is wanting.

Shivers Cozens. Praying for a lot on Yonge Street, and a town lot in the town of York for immediate improvement. The petitioner has had lands granted to him, if he wishes for a lot on Yonge Street he may apply for His Honour's permission to locate part of his lands there, but as the terms of Yonge Street and the town both require actual residence, it is impossible the petitioner could comply with them both.

Peter Smith. Stating that he served last war in the 84th Regiment and was reduced in the year 1783, that he falls short of his quantity of land, nearly, if not quite 100 acres, prays that half of lot 39, in the 6th concession of the township of Charlottenburg may be granted him. Referred to the Surveyor General to report upon.

Donald Campbell. Praying for lands as the son of a loyalist. Certificate wanted.

Benjamin McIntosh. Praying for lands as the son of a loyalist. Certificate wanted.

Alexander McDonell. Praying for lands as a reduced soldier. Certificate wanted.

Thomas Hill. Praying to be put on the U.E. List. Recommended that the name of the petitioner be inserted on the U.E. List.

Thomas Hill. Praying for the residue of his lands as a disbanded soldier, having only received 200 acres. Recommended to be made up 300 acres as a disbanded soldier of '83.

Christopher L'Maire. Praying for lands as a reduced soldier. Recommended that the petitioner do receive 200 acres under the new regulations when he lodges a certificate in the Council Office that he resides within the province.

Thomas Ingersoll, of Oxford on the Thames. Praying to be remunerated in his expences for surveying the township allotted him by Government and for an additional grant of lands to the 1200 acres which he has received. 1200 acres only, have been granted to any principal nominee, who was not exclusively entitled to military lands. Upon a reference to the original petition of Mr. Ingersoll for himself and numerous associates, as well as to the minutes of Council thereon. The Committee are of opinion that the faith of Government stands pledged to no further extent, than what has been already done, namely 1200 acres to Mr. Ingersoll, and 200 acres to each of the settlers named in the chief Surveyor's return, with the township Report. The Committee think it reasonable that Mr. Ingersoll should be repaid the expences of survey, upon producing his surveyor's receipts provided it does not exceed a sum which it might have cost Government for which purpose the Acting Surveyor General will be called upon to report.

Solomon Drouillard. Praying for lands as the son of Francis Drouillard who rendered essential service during the Indian war. Recommended for 400 acres under the new regulations, if he has received none before.

John Goose. Praying for lands as a soldier. There does not appear sufficient proof of his having been a soldier.

Thomas Alexander Clarke. Praying for 1,000 acres in addition to 200 which he has received. Recommended for 400 acres under the new regulations.

Stephen Kessler. Praying for lands as a discharged soldier. Discharge wanting.

Jacob Quant. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if he has had none before.

Joseph Johnston. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if he has had none before.

Thomas Rowe. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if he has had none granted before.

William Jameson. Praying for military lands, having served during the American war. As the certificate alluded to is not in the Council office the petitioner must produce one from some officer of his corps, or other respectable person of his having been a soldier.

John Barber. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if he has had none granted before.

Joseph Farris. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if none granted before.

John Fulmore. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if he had none granted before.

John Emery. Praying for lands as a settler and a reduced soldier. Recommended for 200 acres under the new regulations. His discharge is wanted to substantiate his claim as a soldier.

Thomas Farris. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if he has had none granted before.

Samuel Culbertson. Praying for lands. Not recommended.

John Johnson. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if none granted before.

Thomas Frost. Praying for lands, having served in the provincial marine department. Must produce his discharge if a seaman, a character as a settler, or appear in person.

Emilia Thompson. Praying for lands for herself and three sons. Recommended to grant 200 acres to Emilia Thompson, and 200 acres each to her three sons if of age, all under the new regulations.

Lemuel Sherman. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if not granted before.

Prindel Hubel. Praying for lands as a settler. It does not appear that the petitioner has been a year in the province.

Robert Nichol. Praying for lands as a merchant's clerk or to be put on a footing of those of his description. Recommended for 400 acres under the new regulations.

John Frederick. Praying for family lands. The petitioner's application is too late.

Christine Taylor. Praying for lands as a loyalist. Recommended for 200 acres

James Martin. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if none has been granted before.

Thomas Stewart. Praying for a town lot in the town of York. Recommended on the usual conditions.

William Cornwall. Praying for a town lot in the town of York. Recommended to be granted under the usual conditions.

John and Hanah Shepley. Praying for lands as loyalists. Certificate wanted to entitle the petitioner's wife as a U.E. Loyalist. The petitioner must appear for himself.

David Smith. Praying for lands under the new regulations. Recommended to be granted 200 acres.

Adam Shaver. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as the son of a U.E. Loyalist.

Andrew Barkley. Praying for lands as a discharged soldier. Discharge and certificate of residence wanting.

John Warth. Praying for lands as a settler. Recommended for 200 acres under the new regulations, if none granted before.

Bastion Statay. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Statay. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Peter Bruner. Praying for lands for his wife as the daughter of a U.E. Loyalist. The petitioner's wife recommended for 200 acres as a U.E. Loyalist.

Suffelt Markle. Praying for lands for his wife as the daughter of a U.E. Loyalist. The petitioner's wife recommended for 200 acres.

Allan Cameron. Praying to be confirmed in lot 7, 4th concession, township of Cornwall, on which he is settled, and for lands in lieu of lot 37 in the 11th concession said township, as it appears that others have a prior claim to said lot, notwithstanding Mr. Collins's certificate for said lot. Referred to the Acting Surveyor General to report.

James Stuart. Praying for lands as a subaltern officer having served last war as a surgeon's mate. The petitioner must produce his commission and the order which puts surgeon's mates, on a footing with subaltern officers in regard to the quantities of land granted to the latter.

Ann Sutherland. Praying for lands as a U.E. Loyalist. Certificate of a U.E. Loyalist wanting.

Hanah Cock. Praying for lands. The petitioner does not produce sufficient evidence to substantiate any claim to lands.

Nicholas Shaffer. Praying for military lands having served last American war in Colonel Butler's rangers. Soldiers from Butler's rangers, applying at this late period, must produce their discharge.

Duncan Murchison. Praying for lands as a subaltern officer. The commission is wanting.

Charles Westley. Praying for family lands. The petitioner not producing such a certificate as is required by the board for family lands, the Committee stay any recommendation upon this petition.

Donald McDonald. Praying for military lands as a soldier. The discharge is wanted.

Gottlieb Otto. Praying for military lands as a soldier. The discharge is wanted.

Ann Sutherland. Praying for lands as the daughter of a U.E. Loyalist. Certificate of a U.E. Loyalist wanting.

John McGillis. Praying for military and family lands. Discharge, and the required certificate for family lands wanting.

Susannah Covell. Praying for lands, being the daughter of a captain and a U.E. Loyalist. Certificate of a U.E. Loyalist wanting, but the petitioner may have 600 acres, under the new regulations, as the daughter of a captain, or otherwise 200 acres as the daughter of a loyalist, if Captain Covell is on the U.E. List with the usual privileges.

Thomas Carty. Praying for military lands for himself and deceased father, who was killed at the Eutaw Springs. Recommended for 200 acres, under the new regulations, not however to deprive him of it otherwise, if he or his father's name appears on the U.E. List.

David Crippen. Praying to be confirmed in lot 7 in the 3rd concession of the township of Hope. Recommended for a lot in Hope.

Robert Clarke. Praying for lands for his sons as U.E. Loyalists. Recommended that 200 acres be granted to his eldest son. It does not appear that any of the others are of age.

William McCartney. Praying to be confirmed in lot 24, east side Yonge Street. Recommended to be confirmed on Yonge Street, if the lot is vacant, and he has been permitted to occupy it with His Honour's sanction.

Jeremiah Beaty. Praying to be confirmed in 600 acres in Cramahé which he was permitted to locate by Mr. Keeler and also for 100 acres on the Carrying Place. Recommended for 200 acres, under the new regulations, if none has been secured to him as a settler under Mr. Keeler.

Jeremiah Beacon. Praying for lands, having served last war. The petitioner must be actually removed into the province before his application can be attended to.

Peter Corry. Praying for lot 23, a reserved lot south side river Thames first township. Recommended to be confirmed in the lot prayed for, if he has been entered for it in the Surveyor General's Office.

David Badcock. Praying for lands as a reduced captain in the embodied loyalists, also for lands for his wife as the daughter of a U.E. Loyalist. He must produce his commission, or other authority as a captain. His wife's certificate as a loyalist is not signed.

William Bowen. Praying to have his military lands completed. Recommended for 200 acres in addition to 100, to complete his military lands.

William Beachum. Praying for lands as a U.E. Loyalist, for his wife. Certificate of a U.E. Loyalist is wanting.

Thomas Butcher. Praying for lands as a military claimant. The petitioner having lived for some time out of the province must shew a steady inclination permanently to settle therein, before his claim can be attended to for lands as a soldier reduced in 1783, 4.

Josiah Beal. Praying for a grant of lands as a settler. Petitioner must appear if he means to further his application for land.

Benjamin Badcock. Praying for military lands. Recommended for 300 acres of military lands, if none granted before.

John Burn. Praying for lands as a settler in the township of Hope. Recommended for 200 acres of land in the township of Hope, if none granted before.

Angus McIntosh, of Detroit. Praying for the 3rd concession lot in the rear of a purchase which he has made of one Joseph Beaubien, containing three acres in front and eight in depth, bounded on one side by Alexis Maisonville, Esquire, and on the other by the heirs of the late Joncaire De Chabert, Esquire, of the township of Sandwich. Recommended that the 40 acres asked for be granted as part of a former grant to the petitioner if vacant. The remainder of the petition to lay over for the arrival of the Chief Justice.

John Emerson. Praying for lands as a reduced captain. The petitioner's commission is wanting to entitle him to any additional lands.

Samuel Wright. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres of land as the son of a U.E. Loyalist, if none granted before.

Samuel Wright. Praying for lands for his wife as the daughter of a U.E. Loyalist. The petitioner's wife recommended for 200 acres as a U.E. Loyalist.

Peter Bruner. Praying for lands as a U.E. Loyalist. Recommended to make up his lands 200 acres as a U.E. Loyalist.

Joseph Loucks. Praying for lands for his wife as the daughter of a U.E. Loyalist. Recommended that the petitioner's wife be granted 200 acres of land as the daughter of a U.E. Loyalist, if none granted before.

Michael Markle. Praying for lands for his wife as the daughter of a U.E. Loyalist. Recommended the petitioner's wife be granted 200 acres as the daughter of a U.E. Loyalist, if none granted before.

Philip Frymire. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Michael Hanes. Praying for lands for his wife as the daughter of a U.E. Loyalist. Recommended for 200 acres, if on the U.E. List.

Margaret Fero. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres of land as the daughter of a U.E. Loyalist, if none granted before.

Samuel Sheverdfeger. Praying for an additional grant of lands as a German minister to put him on a footing with another of his description, or about 100 acres which lies adjacent to the lands granted him by Government. Requested that Mr. Chewett do give the board information respecting the petitioner and the person alluded to.

Edward McMichael. Praying that the marsh or meadow in front of lot number 14 in the first concession of the township of Walsingham may be granted him, as it joins his improvements. Referred to the Surveyor General to report upon whether the public will sustain any injury by granting the prayer of the petition.

Adjourned.

7th March, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Read a letter from the Secretary of the province to the Attorney General dated the 20th February last, stating that, "William Caldwell had entered a caveat in his office against the making out any grant or patent for any person or persons whatsoever in the township of Malden in the Western district, until his military claim for 3000 acres shall be satisfied."

Reference being had to the proceedings of the Council on the 8th January, 1793, ordering the township of Malden to be appropriated to Colonel Alexander McKee, Captains Elliott and Caldwell, and the persons settled and having made improvements therein under the authority of Governor Hay and leaving it to the option of the Indian officers to complete their quotas of land in the said township, but ordering that the said township of Malden shall be in all other respects subject to such general regulations as are or may be hereafter framed for the government of townships.

The board are unanimously of opinion that Captain Caldwell can have no other power over the township of Malden than as a joint trustee with Messrs. McKee, Elliot and the nominees of the late Governor Hay. But this trust having been withdrawn, together with all former appropriations by a subsequent order of Council in July last and Mr. Caldwell's power as a joint appropriee or trustee ceased from that period, it appears to the board that the general caveat now entered by that gentleman is nugatory and of no force. The Attorney General is consequently hereby directed to proceed with respect to the township of Malden as before, without attending to such a general caveat which may with equal propriety be laid upon the same grounds against the granting of lands in any other part of the province.

With respect to Mr. Caldwell's military claims for 3,000 acres as a reduced captain in Butler's Rangers, if Mr. Caldwell is desirous of compleating the said claim in the township of Malden, he had better apply very soon at the Surveyor General's office to have his locations entered, as the filling up that township ought not to be any longer delayed.

Read the following petitions:

Inhabitants of the Delaware township. Stating that in consideration of certain lots in this township to Mr. Ebenezer Allen, who engages to build a church on lot 2, but your petitioners having had an offer from Mr. Kilbourn of a very commodious spot on lot 4, prays that the church may be built thereon.

The board having had reference to the assignment to Mr. Allen on condition of his building a church for the Delaware township on the east half of lot 2, is of opinion that the building a church was the principal object of that condition no objection will therefore be made by Government to Mr. Allen or his assigns building the church on lot 4 instead of lot 2 agreeable to the wish of the inhabitants of the township, provided the possessor of lot 4 gives up 12 acres for the site of the church and parsonage.

Inhabitants of the Delaware township. Stating that having been at a very considerable expence in erecting mills to the comfort of the settlement, and being but few in number, pray for a further time to build their church.

The President and Council have no objection to the time for building the church in the Delaware township, being protracted from the 4th of October, 1798, to the 4th of October, 1799.

William Dolson. Praying for lands in the Long Point Settlement. Ordered 200 acres in the Long Point Settlement under the new regulations when they shall be established, before which no warrant of survey to issue.

Catherine Calender. Praying for lands as the daughter of a U.E. Loyalist Recommended for 200 acres as a U.E. Loyalist.

Chewett and Ridout. Praying for 50 acres each in the township of York as park lots. The President's order to the petitioners for fifty acres each, in consideration of their situation in the surveying department, confirmed.

Hugh Cameron. Praying for lands. Ordered 400 acres under the new regulations, but no warrant of survey to issue before they shall be established.

Charles William Gisso. Praying for lands as a discharged Ranger. Ordered 300 acres in Toby Cock.

James Allen. Praying for lands. Petition revised. Ordered 1200 acres under the new regulations but no warrant to issue before they shall be established.

Timothy Murphy. Praying for lands. Ordered that as the petitioner's case seems a hard one, and he has petitioned the board some time since, 200 acres be assigned him as if granted before the order arrived for laying an additional fee on grants and 200 acres more to come under the new regulations, before which the warrant of survey for the latter is not to issue.

Adjourned.

22nd March, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. AEneas Shaw, Hon. John McGill, Hon. David W. Smith.

Read the following petitions:

William Allan. Praying for a town park of 50 acres in the town of York. Confirmed.

Surveyor General's report on Captain Dimont's petition. Lot 3 in the 3rd concession east of the Don, marked from an old plan of York in Bemslie Peters' name, the authority for which is not known, is permitted by His Honour to be located to Captain Dimont as part of 3000 acres granted to him. To be brought before the President in Council by His Honour's desire, to be confirmed, or otherwise. Half lot 1 same concession is permitted by His Honour to be located also to Captain Dimont. To be brought before the President in Council, by His Honour's desire, to be confirmed or otherwise Captain Dimont having some claim for family lands.

The Board is of opinion that Captain Dimont can have no claim for family lands, as he has received 3000 acres as a reduced captain which more than covers the order from the Treasury for 700 acres and family lands. His request for the half of lot 1 is consequently rejected.

The location in lot 3 in the 3rd concession being considered as vacant is permitted to Captain Dimont in part of his military lands, if that quantity remains still due to him.

Tunis Slingerland. Praying to be confirmed in lot 14 in the 4th concession of Clinton and also for an addition thereto.

It appearing on reference to the Surveyor General, that the petitioner having sold lot 14 in the 4th concession of Clinton to Garret Slingerland his brother and acknowledged before a judge of one of the courts in the United States, that he had received a valuable consideration for the same. The Board orders that the said lot 14 in the 4th concession shall be confirmed to Garret Slingerland and to mark their sense of the petitioner's villainy in endeavouring to cheat his brother the Board rejects the other request of the petitioner for lands in addition.

John Jones. Praying to have 1/10 of an acre which was granted to him by Governor Simcoe, made up to 1 acre, also to have a certificate, which he lost at Fort Miami for 200 acres confirmed to him.

The Board consents to the petitioner having a grant of as much more land in the town of York as will make up one acre with that already ordered him.

The petitioner's claim for 200 acres must be authenticated by producing the order under which he claims them.

Adjourned.

5th April, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David W. Smith.

Read the following petitions:

Alexander McNabb. Praying for 50 acres in the 1st concession of York. Ordered 50 acres in the 1st concession of York.

Mary Templeton. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist.

Isaac Melvin. Praying for lands as a settler. To lie over for probation.

Mathias Saunders. Praying for a town lot in York. Ordered a town lot in York.

Isaiah Skinner. Praying for an addition of lands to 100 acres received. Ordered 100 acres in addition to make up the 200 acres allowed to the sons of U.E. Loyalists.

James Givens. Praying for a town lot in York. Ordered a town lot.

Angelique Givens. Praying for a town lot in York. The board is sorry to be under necessity of refusing a request of Mrs. Givens.

William Bates. Praying for lands as a reduced serjeant. Ordered 500 acres as a reduced serjeant. But the petitioner's application being out of time, this grant must come under the new regulations when they shall be established.

Stephen Barton. Praying for lands as a settler. Ordered 200 acres under the new regulations when they shall be established.

Adjourned.

9th April, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David W. Smith.

Read the following petitions:

John Singleton. Praying for lands as the son of a U.E. Loyalist. When the petitioner comes of age his application will be attended to.

Allice Orsburn. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist.

Mary McDonell. Praying for lands as the daughter of a U.E. Loyalist. No proofs appear that the petitioner is entitled to the advantages of a U.E. Loyalist.

William Falkner. Praying to receive a like quantity of lands as other magistrates have hitherto been indulged with. Ordered that the land already granted to the petitioner, be made up 1200 acres under the new regulations, when those regulations shall be established.

Thomas Fleming. Praying for lands as a settler. When the petitioner marries, his petition for land will be immediately attended to.

Alexander Burns, Esq. Praying for a park lot of 100 acres in the township of York. Ordered a front lot of 100 acres and a town lot.

Robert McGregor. Praying for lands as a magistrate. Ordered that the lands already granted to the petitioner be made up 1200 acres under the new regulations, when those regulations shall be established.

John Small, Esq. Prays the board to authorise his issuing a warrant of survey for the 100 acre lot ordered him in front, as several other officers of Government have been admitted to that indulgence before their compliance with the engagements under which those lots were originally granted. Ordered that as warrants of survey have been issued in the like case to others a warrant may issue to the clerk of the Council for his 100 acre lot.

Elias Smith. Praying to have some irregular locations rectified by the Surveyor General for the following settlers: Francis Fike, Christopher Markley, James Stephens, Nathaniel Haskill, Paul Bedford, and Joseph Haskill.

Francis Fike. Francis Fike to change lot 22 in 4th of Osnabruck for a lot in Hope. Referred to the Surveyor General.

Charles Markley. Prays for a second lot. Refused.

James Stephens. Confirmed in lot 2 in 2nd concession of Hope, and ordered lot 18 in 1st concession, having proved himself a guide.

Nathaniel Haskill and Joseph Haskill. Praying for the broken fronts of lots 16 and 19 in front of Hope. Referred to the Surveyor General.

Paul Bedford. Ordered an appropriation in Hope under the new regulations to be warranted after a 12 months' residence. To take the oaths.

Sarah Ainse. Stating that she is a Shanese, and on the 11th of October, 1783, received from the Ochepise nation of Indians at Detroit, for a valuable consideration, a tract of land situate on the north side of the river La Tranche (now the Thames), extending from the entrance of said river to the Forks. Confirmed by deed of the said nation duly executed, and enregistered in the registry of Detroit. That the aforesaid, tract of land, was by the said nation, understood to have been excepted and reserved out of the tract afterwards sold by them, to His Majesty, in that vicinity and on the 7th of March, 1794, they protested against the cession of such reserved part having then learned no such exception had been made in their deed to His Majesty, though particularly stipulated immediately and previous thereto. Prays to be confirmed in the same.

Read the report of Alexander McKee, Esquire, Deputy Superintendent General of Indian Affairs, dated the 21st of September, 1797, agreeable to a requisition from the board dated 12th of August last.

Resolved in consequence that as it appears to the board from the said report, that no reserve whatever was made by the Chippawas in favour of Sally Ainse in the cession made to the King in the year 1790, and that as a full valuable consideration was paid by His Majesty to that nation for the lands then sold, Sally Ainse can have no claim upon the Crown for any part of the lands then ceded. The prayer of this petition cannot be granted.

Adjourned.

John Powell. Praying for a town lot in York. Ordered a town lot in York for Mr. John Powell.

12th April, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. John McGill, Hon. David William Smith.

Read the following petitions:

John Caniff. Praying for family lands. Recommended for 200 acres family lands. (Omitted 28th February, 1798.)

Neil Holmes. Praying for a town lot in York. Ordered a town lot in York.

Samuel Heron. Praying to have his town lot made an acre. Prayer of the petition granted, provided the quantity does not exceed an acre in the whole.

Elizabeth Hough. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist.

Francis Fike, for his wife. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist.

Elias Smith. Petition of the 9th read again with the Acting Surveyor General's report.

Francis Fike. The Board in consequence accedes to the exchange prayed for by Francis Fike, of a lot in Hope in lieu of lot 22 in the 4th concession of Osnabruck, which he is to surrender to the King.

Nathaniel Haskill and Joseph Haskill. Nathaniel Haskill confirmed in lot 16 with its broken front in Hope. Joseph Haskill also confirmed in lot 19 with the broken front in Hope.

Thomas and Mary Welch. Praying for a lot of land in the county of Norfolk. The petitioner permitted to exchange one of the lots granted him in another township for the lot prayed for in the county of Norfolk.

Elizabeth Thomas. Praying for lands as the daughter of a U.E. Loyalist. Henry Fishback the father of Elizabeth Thomas does not appear on the U.E. List of the Eastern district.

John Crow. Praying for family lands. As this petition was filed in time, the board orders 300 acres family lands to the petitioner if not ordered before.

Anna Johnson. Praying for a town lot in the town of Newark. The board is sorry to be under the necessity of refusing the prayer of this petition.

John Jackson. Praying for a town lot in York. Prayer rejected.

James Clark. Praying for lands as a discharged ranger. Ordered 300 acres in Etobicoke as a discharged soldier from the Queen's Rangers.

Philip Pother. Praying for lands for his wife as the daughter of a U.E. Loyalist and a reduced captain. Ordered 200 acres as the daughter of a U.E. Loyalist and 400 acres under the new regulations as the daughter of a captain when that regulation shall be established.

James Miles. Praying for lands as a settler. Ordered 200 acres under the new regulations when they shall be established.

Charles Lorain. Praying for a town lot in York. The petitioner to appear before an answer can be given.

Thomas Beasley. Praying for lands. Ordered 600 acres under the new regulations when they shall be established.

John Norton. Praying for a town lot in Newark. A town lot of one acre at Newark, ordered the petitioner on the usual conditions.

Honourable David William Smith. Praying for land for his son John as the child of an Executive Councillor. Ordered 1200 acres to the petitioner's son John under the new regulations when they shall be established.

John Jackson. Praying for lands as a settler. It does not appear that the petitioner has rendered any service which can entitle him to lands.

George William Myers. Praying to have one of the Crown reserved lots. Reserves not to be removed. They are to be rented and petitioned for under the new regulations which shall be established.

Samuel Marther. Praying to have Michael Tennery's lands confirmed to him, which was made over to him by a nuncupative will. Nuncupative wills for land not admitted. But the improvements on the town lot not sufficient to secure it to the heirs of the deceased. Consequently the appropriations for Tennery to be thrown open.

Peter McMicken. Praying for an additional grant of lands. The petitioner has been sufficiently rewarded for the services he states by an extraordinary grant of lands, and the bench of justices recommended him for gaoler at Newark with the same view, he is consequently considered as not having any further claim for those services.

Alexander Chisholm. Petition read again with the Surveyor General's report. The board having considered the Surveyor General's report is of opinion that it would be improper to comply with the prayer of this petition, especially since the order to lease all reserves. Should the petitioner therefore be inclined to lease this reserve he is to petition to that purpose.

Thomas Schofield. Praying to exchange a town lot formerly granted him for lot 6 in front. The exchange prayed for permitted and lot number 6 in front (if relinquished by the Chief Justice) ordered in lieu of the back lot before ordered to the petitioner.

Christian Stickley. Praying for family lands. Certificate of the truth of the claim being produced, ordered to the petitioner 150 acres family lands, if not granted before.

Adjourned.

14th April, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. David William Smith.

Read the following petitions:

John Sherman. Praying for the broken front of lot 24 containing about 50 acres, and for to be confirmed lot 20, 5th concession, in addition. Ordered the remainder of lot 20 in the 5th concession of Oxford, and to be confirmed in the broken front he is entered for, provided it does not exceed 50 acres. The excess above 200 acres to come under the new regulations, when they shall be established. But this order is not meant to go to beyond 280 acres altogether The warrant for the additional eighty acres to come under the new regulations, and the fee to be as for a park lot. (Omitted 12th April, 1798.)

Richard Mandeville. Praying for 200 acres of land. Recommended for 200 acres. Petitioner being a discharged serjeant.

Captain Will Claus and Mrs. Ann Claus. Praying that the late Col. Claus's lands may be assigned to Mrs. Ann Claus.

It appearing from the Quebec book that the late Lieut.-Col. Claus drew a field officer's allowance of land, 1000 acres, and was authorised to locate it in that part of the province of Quebec which is now Upper Canada. Recommended that the subsequent extension of the royal bounty to field officers to the amount of 5,000 acres including the former 1,000 be granted to Mrs. Ann Claus, the widow of the deceased Lieut.-Col. Claus. This petition having been filed in the office prior to the expiration of the time allowed for presenting military claims.

Adjourned.

16th April, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Read the following petitions:

William Weeks, Esq. Praying for lands as a barrister and town lot in the township of York. Ordered 1200 acres and a town lot in York under the new regulations when they shall be established.

Eve Butler. Praying for lands as the wife of a reduced officer. The board cannot comply with the prayer of this petition, no officers' wives (merely such) having been allowed lands.

John Jones. Petition of the 22nd March read again. Ordered 200 acres under the new regulations when they shall be established.

Caleb Matlock. Praying for his military lands as a reduced soldier. Ordered 300 acres as having served during the war and as his claim existed before the new regulations, and he has been in the province some months, he is to be admitted to the same indulgence as the other disbanded soldiers.

Captain William Claus. Praying to have his name entered on the U.E. List, Home district. Ordered that the petitioner be entered on the U.E. List for the Home district.

His Honour left the Council. The Chief Justice took the chair, when a letter from the President was read as follows:

York, 16th April, 1798.

Sir:

You will be pleased to signify to the members of the Honourable Council that it is my wish that they form themselves into a committee for the purpose of establishing some permanent scheme for leasing the clergy and crown reserves and I beg leave to request the Chief Justice will have the goodness to take upon him the trouble of arranging this business as chairman of the committee.

The scheme for the two reserves must be separately reported on, as that for the reserve for the support of a protestant clergy is to be communicated to the Bishop of Quebec for His Lordship's information and opinion.

I am, Sir,

Your most obedient and humble servant.

(Signed) Peter Russell.

John Small, Esquire,
Clerk of the Council.

His Honour's letter was taken into consideration.

Adjourned.

18th April, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. John McGill, Hon. David William Smith.

Read the following petitions:

North West Company's petition was taken into consideration.

Resolved, that the board cannot at present come to any definitive determination on the subject of this petition but contents itself with assuring the petitioners that it will give the company every encouragement and assistance that is not incompatible with the general rights of His Majesty's subjects.

Resolved, that in the meantime it be recommended to His Honour the President to direct a purchase to be made of the lands mentioned.

Mrs. Catherine McDonell. Praying for lands as the wife of the Adjutant General of Militia for Upper Canada. Recommended for 600 acres as the wife of the Adjutant General of Militia, but under the new regulations.

Adjourned.

20th April, 1798.

Council Chamber, York.

Present: John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David W. Smith.

Read the following petitions:

Major Shank, Queen's Rangers. Praying for a town lot in York. Recommended for a town lot in York.

John Lawrence. Praying for a town lot in York. Recommended for an acre lot in York.

Cornelius Creley. Praying for lands for himself and family. Recommended for 400 acres under the new regulations.

Captain Henry Brooking. Praying for a town lot in York. Recommended for a town lot in York.

Angus McDonell, for self and brothers. Stating that they have made an amicable partition of the lands granted by Government to their late father. Prays that separate deeds may be made out according to such partition, they paying for three deeds. Recommended that the military lands of the late Captain Allan McDonell issue to his children in such proportions as they shall specify, paying for all the deeds but one.

Nelly Bartley. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist. (Omitted 28th February, 1798.)

Charles King and George Chisholm. Praying relief from the Council respecting their lands at Burlington Bay, which the Reverend Mr. Addison claims by purchase from Dr. Kerr. Recommended that the petitioners serve Messrs. Kerr and Addison with a copy of the petition, and that the clerk of the Council write to each of those gentlemen to attend at this board on the day on which the legislature meets.

Adjourned.

21st April, 1798.

Council Chamber, York.

His Honour the President, Hon. John Elmsley, Chief Justice; Hon. David W. Smith.

Read the following petitions:

Elizabeth Davis. Praying for lands as the daughter of a U.E. Loyalist. Proof having been this day adduced of the petitioner's being the daughter of a U.E. Loyalist she is ordered 200 acres as such.

William Lotteridge. Praying for lands as the son of a captain reduced and a U.E. Loyalist. Recommended for 600 acres inclusive as a son of a captain if his father's name is on the U.E. List, but subject to the new regulations.

John Lotteridge. Praying for lands as the son of a captain reduced and a U.E. Loyalist. Recommended for 600 acres as the son of a captain, if his father is on the U.E. List, but subject to the new regulations.

Adjourned.

23rd April, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. David William Smith.

Read the following petitions:

Mary McRoberts. Praying for lands as a U.E. Loyalist. Recommended for 200 acres if on the U.E. List.

Sarah Springer. Praying for lands as a U.E. Loyalist. The certificate is not sufficient to entitle petitioner as a U.E. Loyalist.

Gilbert Vanderbarrow. Praying for lands for himself and family. Recommended for 200 acres and 150 acres family lands, making 350 acres altogether, if not granted before.

Eve Vanderbarrow. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as the daughter of a U.E. Loyalist, who came to Canada.

Isabella Chewett. Praying for a town lot in York. Recommended for a town lot of one acre in York.

Captain Joseph Vignau. Praying for the residue of his military lands. Petitioner made his election to take his military lands in the lower province.

James McDonell, of Detroit. Praying for the residue of his military lands as a serjeant reduced in 1783 from the King's Royal Regiment, New York. Petitioner may have 300 acres in addition as a serjeant, but the time for military claims having elapsed before the petition was filed, the grant must be subject to the new regulations.

Petit, Green, and Gordon. Praying to be admitted as U.E. Loyalists. Petitioners must appear to substantiate their claim.

The heirs of Captain Lottridge. Praying for their father's military lands. Recommended that 3000 acres including former grants be granted to the widow and children of the late Captain Lottridge as tenants in common.

William Davis. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as the son of a U.E. Loyalist.

William Holmes, Surgeon. Stating that he has purchased Lieut. Gainfort's military lands, and prays to have the same confirmed to him. Recommended that the deed for the military lands of Lieut. Gainsfort do issue to William Holmes on the terms proposed by the within petition.

Issac Hough. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Adjourned.

24th April, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. John McGill, Hon. David William Smith.

Read the following petitions:

Thomas Gillam. Praying for lands for himself and family as settlers. Ordered 200 acres under the new regulations when they shall be established.

John McDonell. Praying for lands as an old settler. Ordered 200 acres under the new regulations when they shall be established.

Alexander McDonell. Praying for lands as a settler. Ordered 200 acres under the new regulations when they shall be established. On proof being adduced of the petitioner being of age and in a situation to cultivate lands.

Captain Miles McDonell. Praying for lands for his brother deceased, who was an officer in Col. Butler's late corps of Land Rangers, and who only received 500 acres of land. The military lands of deceased officers, are not to be extended to any other relations of the deceased besides their wives and children.

Ephraim Sandford, Junior. Praying for lands as the son of a captain and a U.E. Loyalist. This petition to be taken into consideration six months hence, when the petitioner has given proofs of his really meaning to settle in this province.

John Smith. Praying for an addition to 200 acres of land which he has received. Ordered 200 acres in addition under the new regulations when they shall be established.

Joel Burns. Praying for the broken front of lot 24 in the 1st concession of the township of Haldimand. Referred to the Surveyor General and if the broken front does not exceed 50 acres (the accustomed quantity usually allowed to be thrown in) he will of course admit it in the description.

Gaius Dean, Junior. Praying for the broken front of lot 20 in the broken front township of Haldimand. Referred to the Surveyor General and if the broken front does not exceed 50 acres (the accustomed quantity usually allowed to be thrown in) he will of course admit it in the description.

Erastus Dean. Praying for the broken front of lot 17 in the broken front of the township of Haldimand. Referred to the Surveyor General and if the broken front does not exceed 50 acres (the accustomed quantity usually allowed to be thrown in) he will of course admit it in the description.

Agnes Kerr. Praying for a town lot in Newark. A town lot will be given to the petitioner when of age upon her application.

Robert Kerr and associates for township of Seymour. Praying to have lands granted them as nominees for the township of Seymour. Ordered that the petitioners, Messrs. Kerr and Ferguson (being military claimants) shall receive 1200 acres each, exclusive of former grants. That William Johnson receive the same portion including former grants. But the prayer of the other nominee, Vanhorn, cannot be attended to until he becomes a settler in this province and a subject of His Majesty.

Robert Kerr. Praying that the King's deed may issue for the lands appropriated to his five children on the 31st March, 1797. The application being premature is not to be complied with.

William Johnson Kerr. Praying for a town lot in the town of Newark. A town lot will be given to the petitioner when of age upon his application.

Gaius Dean, Senior. Stating that his sons have been permitted to occupy lots 18 and 19 and have made considerable improvements but finds that Mr. Danforth is entered for those lots. Prays relief in the premises. Ordered that Mr. Danforth and Mr. Keeler be summoned to appear before this board on the first Council after the meeting of Parliament in June next to shew cause why the prayer of this petition shall not be complied with and it is recommended to Mr. Dean to serve the summons himself upon each of those persons with copies of his petition.

Adjourned.

25th April, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. D. William Smith.

Read the following petition:

Peter Irish's petition read this day. Ordered that the petitioner be put upon the U.E. List and receive a grant of 200 acres of land.

Adjourned.

23rd May, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Read the following petitions:

Leonard Soper. Praying for an addition to the lands he has received. Ordered 400 acres in addition under the new regulations, the petitioner having been recommended very strongly to the President as a fit person to be made a magistrate. But no warrant of survey to issue till the regulations are promulgated.

John Stoner. Praying for the broken front of lot 26 in the 1st concession in the township of Hope whereon he lives, having made large improvements on the broken front. This petition subject to the same answer with that of Anna Ashford read this day.

Anna Ashford. Praying for the broken fronts of lot 1 in the 1st and 2nd concessions of the township of Hope. Ordered that the Surveyor General include the broken front prayed for in his description and to obviate the board's being troubled with future applications of the same nature, ordered that when the broken fronts do not exceed fifty acres the Surveyor General shall consider himself to be authorised if he sees proper to add them to the lots granted immediately behind them, more especially in the township of Hope.

Samuel Mann, a reduced sailor on the lakes. Praying for lands as such. Ordered 300 acres under the new regulations but no warrant to issue before they are promulgated.

Thomas Gray. Praying for lands as the son of a U.E. Loyalist. Ordered 200 acres as the son of a U.E. Loyalist if not granted before.

Samuel William Marsh. Praying for the broken fronts of lots 20 in the 1st concession and also to confirm him in the broken front of lot 17 in the broken front. This petition subject to the same answer with that of Anna Ashford read this day.

Peter Plate. Praying for lands for his wife (Gertrude) as the daughter of a U.E. Loyalist. Ordered 200 acres to Gertrude (alias Catherine Bowen), the wife of Peter Plate as the daughter of a U.E. Loyalist.

Peter Montross. Praying to be admitted to the U.E. List, being entitled to the privileges of a U.E. Loyalist and that his wife may receive lands being the daughter of a U.E. Loyalist. Ordered that the prayer of this petition be granted by enrolling the petitioner a U.E. Loyalist and grant 200 acres to his wife Leah Maybee as the daughter of a U.E. Loyalist, if not granted before.

Elias Smith, Junior. Praying to receive lands as the son of a captain, having only received 200 acres. Ordered four hundred acres in addition under the new regulations to complete the quantity usually given to the sons of captains, but no warrant to issue before those regulations are promulgated.

John Doggett. Praying for lands as a discharged soldier from the Queen's Rangers. Ordered that 300 acres be granted to the petitioner with the other Rangers in Tobycock.

Christian Almis. Praying for the residue of his military lands. Ordered 100 acres to complete the petitioner's military lands, if not granted before.

John Small, Esq., and Mrs. Eliza Small. Praying permission to surrender the western half of the lot granted Mrs. E. Small, and that a deed may issue to the Hon. D. W. Smith for the same. The transfer required permitted.

James Hennsey. Praying to be confirmed in a land board certificate in the name of Thomas Jones, which he has purchased. The prayer of this petition inadmissible.

Philip Long. Praying for lands as a settler. Ordered 200 acres under the new regulations, but no warrant to issue before they are promulgated.

Elias Long. Praying for lands as a settler. Ordered 200 acres under the new regulations, but no warrant to issue before they are promulgated.

James Coffin. Praying for a town lot in Newark. Ordered a town lot in Newark.

Philip Beamer. Praying for lands for his wife as a U.E. Loyalist. Petitioner's wife recommended for 200 acres as a U.E. Loyalist.

David Barton. Praying for lands as a settler. Ordered 200 acres under the new regulations, but no warrant to issue before they are promulgated.

Daniel Barton. Praying for lands as a settler. Ordered 200 acres under the new regulations, but no warrant to issue before they are promulgated.

Oliver Butts. Praying for lands as a settler. Ordered 200 acres under the new regulations, but no warrant to issue before they are promulgated.

Asa Johnson. Praying that a deed for lot 29, west side Yonge Street may issue, having complied with the conditions upon which it was granted. If the deed for lot 29, west side Yonge Street has not already passed the offices, the description permitted to issue for that purpose.

John F. Dame. Praying for lands as the son of a captain who served last American war in Col. Butler's Rangers. Ordered 600 acres as the son of a captain under the new regulations, but no warrant to issue before they are promulgated.

Mary Pruyns. A land board certificate. Ordered that a warrant of survey issue upon this certificate.

Alexander McDonell, Sheriff. Praying that he may receive 200 acres in the township of York, to put him on a footing with the other officers of the court. Ordered that if the petitioner has not had any lands already located in the township of York more than 100 acres, a farm lot of two hundred acres in the township shall be granted him in addition to former grants.

John Dennison. Praying for an additional grant of lands to 200 acres received. It appearing that the prayer of this petition was granted on the June 8th, 1793. Ordered that it be carried into execution under all the advantages of grants of that date and a warrant of survey issue as under that order.

George Cunningham. Stating that he was located by Messrs. Greely and Danforth for lot 10 in the broken front in the township of Haldimand, but is since informed that Mr. Danforth is entered for the same. Prays relief in the premises. Ordered that Messrs. Greely and Danforth be informed by the clerk of the Council of the tenor of this petition and required to shew cause why the prayer of it shall not be granted.

John Button. Praying for lands and a town lot in the township of York. Ordered to lie over until he remains in the province 12 months, or brings his family in. In the meantime if the petitioner wishes to reside in the town, he may have a town lot in York.

David William Smith.

To His Honour Peter Russell, Esq., President, Administering the Government of Upper Canada.

In Council.

The proposals of D. W. Smith, Esq.,

Respectfully shews:

That it will be a convenience to him to have the small town lot opposite his present dwelling, he therefore proposes to Your Honour to build in lieu thereof a log house twice the length of the present hut, with a chimney in the middle, and a glass window in each room, at his expence. And as he has received a deed for one acre in the town, he prays the conveyance or deed to be made to his eldest son, D. W. Smith, Junior, to be arranged agreeably to Mr. McGill's wishes.

(Signed) D. W. Smith.

York, 24th April, 1798.

I accede to this proposal if Mr. McGill knows of no objection to it.

(Signed) Peter Russell.

York, 28th April, 1798.

I conceive that a house may be erected for the more convenient and better accommodation of the artificers and others employed at work on the public buildings on the bank adjoining the road which leads from Mr. Small's to the Don, without interfering with any immediate improvement, or arrangements that might be required, under this impression, I see no bad consequence that can possibly arise from the wished for exchange taking place.

(Signed) John McGill.

Read 23rd May, 1798.

The exchange permitted.

(Signed) P.R.

Adjourned.

26th May, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Read the following petitions:

Robert Young. Praying for a town lot in York. Ordered a town lot in York.

Mary Wilson. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist, if not ordered before.

Captain Claus, Attorney for Sir John Johnson. Praying that Sir John Johnson may be confirmed by His Majesty's patent in a tract of land containing 1200 acres of land purchased from one Stephen Delancy, Esq. The prayer of this petition granted.

Sarah Wilson. Praying for lands as the daughter of a U.E. Loyalist. Proofs wanting that the petitioner's wife's father actually joined the Royal standard, having forsaken his possessions in the revolted colonies for that purpose before she can be admitted as the daughter of a U.E. Loyalist.

John Wilson, Esq. Prays that he may be ordered a front lot in the town of York. The prayer of this petition granted on petitioner relinquishing his claim to the back lot formerly ordered.

William Willcocks. Stating that he has purchased lot 16 in the town of York with improvements thereon from Richard Lippencutt. Prays that deed may issue to him for the same. Permission allowed.

Walter Moody. Praying for a town lot in York. A town lot in York ordered on the usual conditions.

Adjourned.

28th May, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Order of Council. His Honour having laid before the board several papers relative to lands purchased from the Indians. Ordered that these papers be filed on record in the council office and copies of Sir John Johnson's letter and the speech of the President to Yellow Head and the chiefs of the Chippawa Nation with their answer be sent to the Surveyor General.

Adjourned.

29th May, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. D. W. Smith.

Read the following petitions:

George Chisholm and Charles King. Petitions again read, the parties being present. Both parties concerned having been heard before the board, and it having been recommended to them to accommodate their dispute amicably, they consulted together, and returning to the board, declared that they had agreed to settle the matter amicably according to certain stipulations laid before the board, it is consequently at the request of all parties ordered that the deed to the Reverend Mr. Addison for lot 1 with the broken front in the first concession of Flamboro' East be recalled and cancelled, and that deeds issue for the lands ordered to Robert Kerr, Esquire, in said township as stated in the above mentioned agreement which is hereunto annexed, and that the deed to Mr. Addison for 200 acres in said township as transferee to Ralph Clinch, Esquire, do still issue, if not already issued.

It is hereby agreed by and between the parties whose names are hereunto subscribed that the deed for lot 1 in front of the first concession, lots 1 in the first and second concession of Flamboro' East shall issue to George Chisholm, and that the deed for lot 2 in front of the first concession and lot 2 in the 1st and 2nd concessions of the said township shall issue to Charles King, and that the deed for the remaining part of lot 13 in the first concession of the said township with the broken front and lot 11 in the 3rd concession of the said township shall issue to the Reverend Mr. Addison, all parties paying the expence of their own deeds.

Witness our hands this 29th day of May, 1798.

(Signed) Robert Addison.
Robert Kerr.
Charles King.
George Chisholm.

Alexander McDonell for himself and his brother James Macdonell. Angus McDonell. Witness, John Small. Assented to by the board and the deeds ordered to issue accordingly.

Mary Haslip. Praying for lands as the daughter of an old officer and servant of the Crown, and whose husband also was an officer on the lakes. In consideration of the services of the petitioner's father, and of her deceased husband's, ordered 400 acres under the new regulations, but no warrant to issue until those regulations are promulgated.

John Coon. Petition read again with the Surveyor General's report. The Acting Surveyor General having reported that John Coon, the petitioner, is willing to accept of lot 13 and 14 in the 4th concession of Walpole, ordered that a warrant of survey issue to John Coon for 400 acres to be covered by the above lots.

Adjourned.

30th May, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. David William Smith.

Read the following petitions:

Mathew Bennet. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Ephraim Land. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Hugh Shaw. Praying for lands as a serjeant reduced in 1783. Recommended for 500 acres under the new regulations.

Mrs. Elizabeth Gray. Praying for a town lot in York. Mrs. Gray recommended for a town lot in York.

John Dunham. Praying for lands and a town lot in York. Recommended for 200 acres and a town lot in York.

Aaron Case. Praying for lands as a settler. Recommended for an appropriation of 200 acres on the recommendation of the Chief Justice.

Jediah H. Post. Praying for lands as a settler and a town lot in York. Petitioner's family are not in the province.

Daniel Herrick. Praying for lands on Yonge Street under new regulations. Petitioner's family are not in the province.

William Hunter. Praying for a town lot in the town of York. Recommended for a lot in the town of York.

Peter Ferguson. Praying for lands as a settler. Recommended for 200 acres under the new regulations.

Jacob Furlow. Praying for his military lands as a soldier reduced 1783. Petitioner's family is not in the province.

Cornelius Furlow. Praying for his military lands as a soldier reduced in 1783. Petitioner's family is not in the province.

William Hooten. Praying for lands as a serjeant discharged from Queen's Rangers. Recommended for 500 acres inclusive as a reduced serjeant.

Robinson Irish. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Nathaniel Hughson. Praying for lands as an old soldier and to be put on the U.E. List, and also for lands for his wife as the daughter of a U.E. Loyalist. Recommended for 400 acres and that his name be put upon the U.E. List. His wife also recommended for 200 acres as a U.E. Loyalist.

Ordered that lot 13, 3rd concession, township of York, heretofore appropriated to Magnus Swanson be considered as vacant.

Adjourned.

2nd June, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. John Elmsley, Chief Justice; Hon. David William Smith.

Read the following petitions:

John McIntyre. Praying for lands as a settler and a town lot in York. When the petitioner has been in the province twelve months his petition may be attended to.

Edward McMichael. Prays for a part of the marsh which fronts his lot. Referred to the Surveyor General who will report thereon.

Edward McMichael. Praying for lot 13 with broken front in the township of Walsingham. The lot prayed for by the petitioner has also been prayed for by John McCall. Both parties having therefore been heard before the board and their claims appearing to be equal, the board grants the prayer of this petition for lot 13 as part of the family lands ordered to the petitioner, because he has long made use of the lot and lives on the lot adjoining, whereas McCall residing 15 miles from it, will not suffer the same inconvenience by the want of it.

The Reverend John Stuart. Praying for lands for his sons John, James, Charles and Andrew and his daughters Jane, Mary and Ann. Ordered to the petitioner's son John six hundred as a merchant, his son James 1200 acres when admitted to the bar, Charles 600 acres when he sets up for himself as a merchant, and his son Andrew and daughters Jane, Mary and Ann 400 acres each when of age or the daughters married. The above grantees as the children of a U.E. Loyalist are to be exempted from the payment of fees to the extent of 200 acres each the rest of the land granted them to be subject to the additional fees under the new regulations and no warrant to issue before they are promulgated.

Mrs. Elizabeth Lawe. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist.

Elizabeth Benson. A land board certificate. Ordered the petitioner 200 acres in addition as Lord Dorchester's bounty, if not ordered before.

Frank Waggoner. Praying for the residue of his military lands. Ordered 100 acres to make up the complement of petitioner's military lands, if they have not been already granted.

Josiah Deane. Praying for lands as the son of a lieutenant. Ordered 400 acres as the son of a Lieutenant under the new regulations when they shall be promulgated.

John Devine. Praying for lands as a settler. When the petitioner's family comes into the province his petition for land will be attended to.

Miss O'Neill. Praying for lands as the daughter of a U.E. Loyalist and lieutenant. Ordered 200 acres as the daughter of a U.E. Loyalist, if not granted before, and 200 acres in addition as the daughter of a lieutenant, the last to be under the new regulations but no warrant of survey to issue before they shall be promulgated.

Isaac Van Vleck. Praying for military lands as an officer who served last American War. It does not appear to the board that the petitioner has a claim to lands as an officer as he was not commissioned. Should the petitioner remove into the province with his family his prayer for land in it may be attended to.

Adjourned.

6th June, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. John McGill, Hon. AEneas Shaw.

Read the following petitions:

John Morgan. Praying for lands as a settler in Upper Canada. The petitioner's wife and children are not in the province.

Mrs. Elizabeth Peters. Praying for lands as the wife of a barrister. Recommended for 600 acres as the wife of a barrister and also for a town lot in Kingston.

Thomas Paxton. Praying for a town lot in Kingston. Recommended for a lot in Kingston.

Hugh Earl. Praying for a town lot in York. Recommended for a town lot in York on condition of immediate improvement.

Captain William Claus. Praying for a town lot in York. Recommended for a town lot in York.

George Cowan. Praying for a town lot in York. Recommended a town lot in York on condition of immediate improvement.

John Cameron. Praying for lands as a young merchant and a town lot in Kingston. Recommended for town lot in Kingston and 400 acres as the son of a subaltern.

John Amory. Praying for lands as the within papers may entitle him to. Recommended for 600 acres under the new regulations.

William Ashley. Praying for a town lot in Kingston. Recommended for a town lot in Kingston.

Elias Smith. Praying for family lands. With respect to such of the persons named in this petition as are not yet of age or within the province, their claims will be taken into consideration when they come of age or into the province.

Adjourned.

7th June, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. D. W. Smith.

Read the following petitions:

James Smith, Esq. Praying to be confirmed in the 700 acres ordered him by Lord Dorchester, and that an additional allowance may be assigned him to put him on a footing with other magistrates, and also to have the reserves taken off his lots on which his improvement stands. Ordered that the Surveyor General be authorized to include the lots on which the petitioner's improvements are placed in his location of the lands still wanting to complete the 1200 acres ordered notwithstanding they may fall within Mr. Collins's reserve, and should the improvements incroach upon any lot intended to be reserved, the Surveyor General is directed not to place the reserve upon that lot.

Adjourned.

8th June, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David W. Smith.

Read the following petitions:

Jacob Shumaker. Land board certificate. Recommended for 200 acres as a U.E. Loyalist.

Colin McNabb. Praying for a town lot in York. Ordered a town lot in York.

Archibald McNeil. Praying to be confirmed in lot 17, 8th concession, township of Bastard. Recommended to be granted if the lot he prays for does not appear to be previously granted to John Eaton, or any other person, for which the Council office and Surveyor General's office is to be searched accordingly.

D. McG. Rogers. Praying that the heirs of the late James Rogers may receive the lands due to their uncle Lieutenant Col. Robert Rogers, deceased, and also that grants of land may be made to the children of the late Major James Rogers, likewise that lands may be assigned the children of Mary Armstrong, alias Rogers. The late Lieutenant Colonel Rogers never having settled in the province, his heirs can have no claim under him. The children of Mrs.

Armstrong, viz., Margaret McGregor Armstrong, James Rogers Armstrong and Edward Westróp Armstrong are recommended for 800 acres as tenants in common in right of their late mother.

Solomon Jones. Praying that the lands located by the late Lieutenant David Jones may be confirmed to him by His Majesty's deeds being duly authorised by papers from the heirs to receive the same. Recommended that the lands granted to him David Jones in his life time or in his right to his brothers and sisters since his death, do issue to Solomon Jones, he having produced this day releases from them of their rights to him.

Charles Goodwin. Praying for lands as a settler. Recommended for 200 acres under the new regulations.

John Low Campbell. Praying for family lands. Recommended for 150 acres family lands under the old regulations.

Henry Rimmerman. Praying for the residue of his military lands. Recommended for 200 acres in addition as a soldier under the old regulations.

Daniel Way. Praying for family lands. Recommended for 200 acres family lands.

Daniel Culver (omitted 28th February, 1798). Praying for lands and that lot 7 in the 8th concession of the township of Walpole be grant him as a settler. Recommended for 200 acres under the new regulations, if none granted before and the lot granted if vacant.

James Smith, Esq. (omitted 2nd June, 1798). Praying that lands be granted him as a captain having served in that capacity during the late American war. The board having maturely considered the pretentions of the petitioner, and finding that the petitioner had only a warrant to raise men for corps to be commanded by Lieut. Col. Cuyler which had not been confirmed by a commission, they do not consider themselves authorised under the late instructions to admit the petitioner to the portion of land he would have been entitled to had he been commissioned as a captain. But in consideration of the petitioner's sufferings and former services to the King the board orders that the land he has received be made up 1200 acres under the old regulations.

Pulina Walters. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Moses Holt. Praying for lands as a reduced officer who served last war in America. The petitioner is not resident in the province.

Unice Post. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Ogden. Praying for the residue of his military lands. Recommended for 100 acres in addition under the old regulations.

Jonathan Ferguson. Praying for family lands. Recommended for 150 acres family lands under the old regulations.

Richard Ferguson. Praying for a town lot in Kingston. Recommended for a town lot in Kingston.

Mary Boulton. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Joseph Bardon. Praying for lands as a settler. Recommended for 200 acres under the new regulations.

Moses Carnihan. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Henry Young. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Young. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Trompour, Junior. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

James Hughs. A land board certificate as a soldier. Recommended for 300 acres as a soldier under the old regulations.

Lawrence Thurison. Praying for lands and that lots 7 south and south west side Black river, and lot 4 E. end of Black river (the latter for his wife) also lot 17 near the little falls. The petition, so far as relates to the petitioner himself, has been already answered. With respect to his wife, the board is not satisfied that she is the daughter of a U.E. Loyalist as in a former petition, she is said to be the daughter of a man who died in 1784 in London.

Nancy Gilbert. Praying for lands as the daughter of a captain having only received 200 acres. Recommended for 600 acres inclusive as the daughter of a captain.

(Signed) J.E.

Confirmed to receive 400 acres in addition under the new regulations.

(Signed) P.R.

John Green, Junior. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Garrison. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Solomon Jones. Land certificate for 500 acres from General Haldimand to David Jones. Prays a deed to issue to petitioner. Recommended that the 500 acres within mentioned do issue to Solomon Jones, he having this day produced releases from all his brothers and sisters.

Gaius Dean and Erastus Dean. Recommended that Gaius Dean be entered for lot 20, 1st concession in Haldimand with the broken front. That Erastus Dean be entered for lot 17, 1st concession of Haldimand with broken front. That lots 18 and 19 be declared vacant. But it is to be understood that these broken fronts are given only on consideration of the improvements made by the petitioners, and not to be drawn into precedent.

Adjourned.

9th June, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill.

Order of Council respecting the new regulations. As many applicants to this board who have families in the States are desirous to know the land they are to receive immediately after receiving the answer to their petitions, and persons of that description might be discouraged from coming into the province if they could not receive that information before the new regulations are promulgated and such a consequence operate eventually to retard the population of the province. The President moves that the Surveyor General be authorised to reserve at his discretion specifick lots for such applicants as may receive orders for land under the new regulations, the warrants on which are suspended until the promulgation.

Read the following petitions:

Samuel Sinclair. Praying for the residue of his military lands. Ordered the petitioner one hundred acres to complete his military lands.

Kelly Thurber and John Thurber. Praying for lands as settlers. The petitioners Kelly Thurber and John Thurber ordered 200 acres each under the new regulations when they shall be promulgated.

Ruth Honeywell. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist.

Theodorus Allen. Praying for lands as the son of a U.E. Loyalist. Ordered 200 acres as the son of a U.E. Loyalist.

George Allen. Praying for lands as the son of a U.E. Loyalist. Ordered 200 acres as the son of a U.E. Loyalist.

Comfort Davis. Praying for lands as a settler. Ordered 200 acres under the new regulations, but no warrant to issue until they are promulgated.

Josiah F. Dean. Praying for lands as a settler. Ordered 200 acres under the new regulations, but no warrant to issue before they are promulgated.

Samuel Baker. Praying for lands as a settler. Ordered 200 acres under the new regulations, but no warrant to issue until they are promulgated.

Adjourned.

11th June, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill.

Read the following petitions:

Margaret Welch. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christian Hartle. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres including former grants as a U.E. Loyalist.

John Griswold. Praying for lands as the son of a captain and a loyalist, having never received any lands. Ordered 200 acres under the new regulations.

Robert Ross. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Cameron. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Alexander Cameron. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Cameron, Donald Cameron's wife. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Cameron, Allan Cameron's wife. Praying for lands as a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Adam Baker, Junior. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Baker. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Ann McPhale. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Mattice. Praying for lands as the daughter of a U.E. Loyalist. Recommended 200 acres as a U.E. Loyalist.

Christian McLeod. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margery McDonell. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John McDonell. Praying for lands as a U.E. Loyalist and son of a captain. Ordered 600 acres including former grants.

Grace McLean. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jenny McLeod. Praying for land as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

William McDonell. Praying for lands as the son of a captain and a U.E. Loyalist. Recommended for 600 acres as the son of a captain including former grants.

Jane McIntosh, wife to Patrick McIntosh. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth McMichel. Praying for 600 acres of land under the new regulations having a numerous family which consists of ten children. Ordered at the motion of the President in consideration of her peculiar situation 200 acres under the new regulations.

Harriot McLeod. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary McLeod. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Christy McGillis. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Nathan Parks, Junior. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Hanah Runion. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Gottlob Senseman, for self and associates. Praying for a tract of land on the river Thames six miles in breadth and twelve in depth, whereon they have made large improvements, being in the year 1793 permitted by His Excellency Governor Simcoe to occupy the same.

Ordered that the Surveyor General be directed to cause a survey to be made of the tract appropriated to the trustees of the Moravian Society by an order of Council dated the 10th July, 1793. And that this tract be reserved forever to the Society in trust for the sole use of their Indian converts. A tract be laid off at the same time contiguous thereto equal to two sevenths of the quantity in the said tract, one of which is to be reserved forever (agreeable to the Act) for the support of a protestant clergy in this province.

William Fraser, Esq. Praying for a small peninsula opposite his farm on the river St. Lawrence, containing about 25 acres or thereabouts and which without the same he is obliged to land his boat on his neighbour's farm without being able to get at his own. The peninsula prayed for not coming within the description of those parcels of lands on the river St. Lawrence which are reserved for future purposes, ordered that the prayer of this petition be granted under the new regulations.

Thomas Sherwood, George Kintner and David Jacocks. Praying to be put on the U.E. List. Recommended that the names of Thomas Sherwood, George Kintner and David Jacocks be put on the U.E. List for the Eastern district.

Adjourned.

12th June, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David W. Smith.

Read the following petitions:

Euraney McNeil. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Paul Trompeau. Praying for lot 32 on the Carrying Place. Recommended for lot 32 east of the Carrying Place to the east lake, if not applied as a clergy reserve.

Martin Rush. Praying that he and his father may receive 100 acres each to complete their military lands and that they may locate lot 81 in the 1st concession of Ameliasburg. The petitioner and his father Martin Rush, Senior, recommended for 100 acres each in addition under the old regulations.

James Givens, for Mrs. Andrews. Praying for a town lot in York for Mrs. Andrews. Recommended for a town lot in York.

Condrat Defoe. Praying for a further grant of land in consideration of his father's services and his own and the sufferings they both underwent during the American war. The board is extremely sorry that the case of so meritorious a loyalist does not fall within its general rules.

Peggy Redick. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Rudolff Palstt. Praying for family lands. The certificate insufficient, it must state how many children the petitioner had in the province before 1789.

Euterpie Henderson, Hanah Henderson and Jonathan Henderson. Praying for lands as the children of a U.E. Loyalist, being all of age. Mr. Brackenridge having assured the board that the petitioners are of full age, they are recommended for 200 acres each as U.E. Loyalists.

David Sheck. Praying for lands as a magistrate. Recommended for 1200 acres as a magistrate.

John Eversie. Praying for lands as a soldier. Recommended for 200 acres under the new regulations.

Mary Emery. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Cesar Jahonnett. Praying for lands as a waggoner, last American war. Recommended for 200 acres under the new regulations.

Richard Cartwright. Praying for lot 11 front street in York for himself, and for lot 11 in Market street for his wife. Petitioner recommended for lot 11 front street in York. His wife recommended for lot 11 in Market street.

Dean Carleton. Praying for lands as a settler in the province. Recommended for 200 acres under new regulations.

Darkis Wood. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Wood. Praying for land as a soldier reduced. Recommended for 300 acres as a soldier.

Rachel Wright. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Anne Brown. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thirza Booth. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Brady. Praying for lands as the son of Col. Brady, of the Royal Artillery, who wishes to become an actual settler. Recommended for 400 acres under the new regulations.

(Signed) J.E.

Confirmed provided the petitioner actually becomes a settler in this province.

P.R.

Levenia McVagh. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Henry Merkill. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Widow Christy Miller. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John McDonell. Praying for an additional grant of lands. Recommended for 300 acres under old regulations.

John Merkill. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Jennet Mattice. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Grant, Esq. Praying for lands as a magistrate. Recommended for 1200 acres, inclusive as a magistrate under new regulations.

David Morrison. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Allan McDonell. Praying for lands as a magistrate. Recommended for 1200 acres including former grants as a magistrate under new regulations.

Roderick McDonell, pastor to the Roman Catholics of the county of Stormont, and various other parts of the Eastern district. Prays for land. Recommended for 1200 acres under the new regulations, but no warrant until a certificate is filed of petitioner's being actually and *bona fide* settled in this province. J.E.

The President must be more fully assured of the petitioner's actually meaning to become a resident in this province before he can pledge the faith of Government to grant him 1200 acres in it.

Daniel Robertson. Praying for lands as a discharged soldier. Recommended for 200 acres under the new regulations, but no warrant to issue until a certificate is filed of his family being in the province.

Dolly Smith. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Daniel Stevens. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Thomas Freel. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist, but no warrant to issue until a certificate is filed of his being of age.

Jeremiah Fraser. Praying for lands as a discharged soldier. Discharge being produced, recommended for 300 acres including former grants.

Peter Freel. Praying for a further grant of lands. The petitioner has received all the lands allowed persons of his description.

Adjourned.

14th June, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill.

Read the following petitions:

John Shell. Praying for lands as a U.E. Loyalist, having joined the Royal standard last American war. Recommended for 200 acres under new regulations.

Philip Byrne, Esq. Praying for lands as a magistrate. Recommended for 1200 acres inclusive as a magistrate under the new regulations.

Sarah Roys. Praying for lands as the daughter of a U.E. Loyalist. Recommended .for 200 acres as a U.E. Loyalist.

Henry Hutchins. Praying for military lands as a reduced soldier from the Queen's Rangers. Recommended for 300 acres in Tobicot as a ranger.

Barzille Holt. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Anthony Hollingshead. Praying for lands for himself and numerous family which he has brought into the province, and that his name may be put on the U.E. List, being duly entitled to the privileges of such. Recommended for 400 acres and that his name be put on the U.E. List.

John Donovan. Praying for lands as a settler. Recommended for 400 acres under new regulations.

Peter Darlington. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Calso Gray. Praying for lands as a settler. Recommended for 200 acres under new regulations.

William Grant. Praying for lands as a serjeant under old regulations. Recommended for 500 acres as a serjeant under old regulations.

Catherine Gibb. Praying for lands as the daughter of a U.E. Loyalist. It appearing that the petitioner's mother is on the U.E. List, recommended for 200 acres as a U.E. Loyalist.

James Ross. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Donald Ross. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Francis Otto. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Adam Popst. Praying for lands as a soldier reduced and that his name be put on the U.E. List, he being entitled to the privileges of the same. Recommended for 300 acres as a soldier under the old regulations, and that his name be put on the U.E. List for the Eastern district.

Ichabod Parker. Praying for lands under the new regulations. Recommended for 200 acres under new regulations.

George Ferguson. Praying for lands as a settler. Recommended for 200 acres under new regulations.

John Feterlay. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Peter Ferguson. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Jacob Farrand. Praying to have his military lands confirmed to him as a reduced lieutenant in 1783. Recommended for the written named lots as the petitioner's military lands under old regulations.

John Ferguson. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Donald McDougald. Praying for lands as assistant store keeper in the Indian department. Recommended for 600 acres under new regulations.

Donald McDonell. Praying for lands as a discharged soldier. Recommended for 300 acres as a soldier under old regulations.

Alexander McDonell. Praying for lands as a settler. Recommended for 200 acres under new regulations.

John McIntosh. Praying for lands as a foreman of masons, having served in that capacity for fourteen years. Recommended for 200 acres under new regulations. The petitioner's service having been in the lower province, he must resort thither for his reward.

Hugh McMullan. Praying for lands as a settler. Recommended for 200 acres under new regulations, if not granted before.

Thomas Mulloy. Praying for lands, having served under Captain Joseph Brant last American war. Recommended for 300 acres as a soldier under old regulations.

Hanah Swort. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Kesia Springer. Praying for land as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Marcella McKay (omitted 11 June, 1798). Praying for land as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Nelly McMartin (omitted 11 June, 1798). Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Adjourned.

15th June, 1798.

Council Chamber, York.

Present: The Hon. John Elmsley, Chief Justice; the Hon. AEneas Shaw, the Hon. John McGill.

The following lands were transferred to the Hon. Richard Duncan:

Nicholas Miller, 200 acres.

Confirmed. P.R.

Abraham Hopper, 200 acres.

Confirmed. P.R.

John Baptist, 200 acres.

Confirmed. P.R.

Henry Baker, 200 acres.

Confirmed. P.R.

Laid before the board, the lands claimed before the commissioners for the county of Lincoln and allowed.

Claimants	No. of Lots	Concession	Acres	Township	Original Nominees
The Hon. R. Hamilton....	29 & ½ 29	1st 2d	200 100	Ancaster	John Francis
"	½ 29	2d	100	"	William Baker
" .... "	46 S. Half 45 & 47	5th 5th	400	"	John Kitson
"	25	5th	200	Gainsboro'	Samuel Gardner
"	10	2d	200	"	John B. Marcilles
"	22 & ½ 23	4th	300	"	Caphart Barthol
"	21	2d	200	"	Samuel Coffee
"	15	1 & 2d	200	"	James McFerson
"	fronts of 30 & 31	on Lake Erie	300	Wainfleet	Henry Young
John Ellis................	12	7th	100	Grantham	Joseph Brown
Thomas Dickson..........	1 & 2	3d	200	Bertie	Joseph Petry
John McKay..............	27	....	half acre	Town of Newark	Robert Kerr, Esq.
Richard Beasley..........	18, 19 & 21	1st	300	Barton	Robert Lotteridge
	19	2nd	100	"	

Newark, 8th May, 1798.
(Signed) RALPH CLINCH.

•Referred to the Surveyor General to report upon.

Adjourned.

16th June, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Yonge Street Report. The Yonge street report was laid before the board by the acting Surveyor General, shewing those who had complied with the prescribed conditions, and those who had neglected so to do. Ordered that the parties noticed in this schedule be summoned to appear before the board on the 1st of July next to shew cause why their lots should not be declared open.

Adjourned.

18th June, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill.

Read the following petitions:

William Kesyler. Praying for lands as a soldier. Recommended for 300 acres as a soldier under old regulations.

Jacob Eversie. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Daniel Souls. Praying for lands for himself and wife, and that his name be put on the U.E. List. Ordered that the petitioner's name be added to the U.E. List for the Home district. Ordered likewise 200 acres to the petitioner and 200 acres to the petitioner's wife Aschsah, daughter of Anthony Hollingshead, a U.E. Loyalist, subject to such future regulation as shall be in their behalf declared.

William Gray, Esq. Praying for lands as a captain reduced in 1783 and who served during the American war. Public notice having been given in consequence of an order of Council dated the 21st of March, 1797, that no claim of right, whether military or other, would be attended to after the 1st of August, 1797, which had not been filed in the Council office before that day and the time for closing those claims having been prolonged at the request of the House of Assembly to the first of November following the board considers itself to be absolutely restricted from granting the petitioner more than 1200 acres which quantity is ordered subject to the new regulations, but no warrant of survey to issue before they are promulgated and Captain Gray shall remove with his family into this province.

John William Livingston, Esq. Praying for lands, as a captain having served last American war until the reduction as such in the King's American Regiment. Public notice having been given in consequence of an order of Council dated the 21st March, 1797, that no claim of right whether military or other would be attended to after the 1st August, 1797, which had not been filed in the Council office before that day and the time for closing those claims having been prolonged at the request of the House of Assembly to the first of November following, the board is sorry Captain Livingston did not make his application in time, as it considers itself to be absolutely restricted from granting to him more than 1200 acres, which quantity is ordered subject to the new regulations but no warrant of survey to issue before they are promulgated, and Captain Livingston shall remove with his family into this province.

Adjourned.

20th June, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. AEneas Shaw, Hon. John McGill.

Read the following petitions:

Elezer Lockwood. Praying for an additional grant of lands. The lands the petitioner has received is fully adequate to his pretentions.

James Clark, Junior. Petition revised.

It appearing that Mr. Clark, the clerk of the Legislative Council, has taken up the whole of his land amounting to 1200 acres elsewhere, and it being necessary that he should as soon as possible remove his residence to York, it is recommended that a farm lot of 200 acres in the neighbourhood of York be granted to Mr. Clark, exclusive of former grants, but that no warrant shall issue until he is actually and *bona fide* settled at or near York.

J.E.

Confirmed under the new regulations, if there is a lot vacant in the township of York.

P.R.

William Tindall Slatter. Praying for lands, having served last war as a soldier, and that his name may be put on the U.E. List. Recommended for 400 acres. His claim to be put on the U.E. List is deferred.

Confirmed under the new regulations but an appropriation may immediately take place.

The heirs of the late John Hare. Praying permission to locate lot 20, 3rd concession, and lots 16 and 17 in the 4th concession of the township of Saltfleet in part of an order of Council for 3000 acres in right of their father. Referred to the Surveyor General to report whether the lots prayed for are vacant.

Daniel Soules's petition read again (which had been 18th inst.). Recommended that in the meantime an appropriation of the land above mentioned be made.

Adjourned.

23rd June, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. Alexander Grant, Hon. James Baby, Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

Order of Council. His Honour the President came into Council and it was moved that lots 31 and 32 on each side of Yonge Street had been formerly set apart in defraying the expence to Government of opening that road and it being represented that it may be of advantage to some U.E. Loyalists who have applied for these lots, if this restriction was taken off, and six other lots set apart in lieu of these four for the same purpose, ordered that the Surveyor General take off the restriction from lots 31 and 32 on each side Yonge street, and select six others to be set apart for the same purpose, the numbers of which he will report to the board.

Read the following petitions:

James Falconer. Praying for lands, having served as a master's-mate on board the *Sandwich* last American war, and received several wounds which rendered him unfit for service. Recommended for 400 acres under new regulations.

Joseph Hamilton. Praying for lands as the son of a Legislative Counsellor. Recommended for 1200 acres under new regulations.

Robert Young, Senior. Praying for lots 1, 2, 3 and 4 south side the Carrying Place at the head of the bay of Quinté. The consent of the two surviving sons of the petitioner must be produced in writing before this petition can be complied with to its full extent. He may have the lot given to the deceased son.

Robert Young, Junior. Praying to be admitted to the distinction of a U.E. Loyalist. It does not appear that petitioner is entitled to the distinction of a U.E. Loyalist.

William Gillespie. Praying for lands, having brought his wife and five children into the province. Recommended for 200 acres under new regulations.

Joshua Walton. Praying for lands as a settler in the township of Hope. Recommended for 200 acres under new regulations, but no warrant to issue until petitioner produces a certificate of having been resident 12 months in the province.

Samuel Vanwyck. Praying for lands as a settler. Petitioner must produce a certificate from persons of respectability of good character and behaviour in the place of his former residence.

Joshua Sly. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Christina Tice and David Bestada, heirs of the late Gilbert Tice. Praying that a deed for 600 acres may issue to Robert Hamilton, Esq., being part of the lands set apart by the late Gilbert Tice's will for the payment of his debts. Recommended that a deed do issue to the Hon. Robert Hamilton for the six westernmost lots of the late Captain Tice's lands in Stamford.

George Cunningham's petition read again. Recommended that a warrant issue to the petitioner for the within named lot. Mr. Greely appeared and declared that Messrs. Keeler and Danforth (who did not appear) took the petitioner's name off the lot which had been placed there by him (Greely) knowing that the petitioner had made an improvement on it, that he (Greely) remonstrated with them but in vain.

Adjourned.

25th June, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. John Elmsley, Chief Justice; Hon. Alexander Grant, Hon. James Baby, Hon. John McGill, Hon. D. W. Smith.

Edward Jessup, Esq. Having appeared before the board and presented a deed of a grant from His Majesty to Major Edward Jessup for 3800 acres in the township of Cambridge in the county of Stormont in the Eastern district, dated the 24th day of August, 1796, which he represented to contain several erasures and interlineations and the number of the lots are expressed in figures instead of letters, which though they may not vitiate the grant he conceives may be attended with difficulties and inconveniency, and praying in consequence that the board will be pleased to accept his surrender of the same to the King and direct another deed to be made out for conveying the same land to Major Edward Jessup.

Another deed of grant having been also presented by the same gentleman conveying to himself 1400 acres in the same township, county and district, and dated the same day and year which he prays leave to surrender and have renewed for the same reasons. Ordered that the surrender of the above mentioned deed of grant be accepted, and that other deeds be prepared without loss of time exactly corresponding with the deeds cancelled in every respect, except the erasures, and interlineations and that the number of the lots expressed in letters, not in figures and that no fee whatever shall be demanded for the same.

Read the following petitions:

John Secord, Junior. Praying for an additional grant of lands, having lost his hearing in the King's service last American war. Ordered, in consideration of the petitioner's loss of hearing in the service, that two hundred and fifty acres be added to the quantity already ordered him but this addition to come under the new regulations.

Samuel Smith, Esq. Praying for a town lot in York. Ordered a town lot in York.

Samuel Street, Senior. Praying for a town lot in York. Ordered a town lot in York.

The Hon. Alexander Grant. Praying for a town lot in York. Ordered a town lot in York.

Thomas Fraser, Esq. Praying for a town lot in York. Ordered a town lot in York.

Cornelius Daily. Praying for lands as a settler. Ordered 200 acres in the township of Hope, if the petitioner chooses it, under the new regulations.

The Hon. Robert Hamilton. Praying for a town lot in York. Ordered that the prayer of this petition be granted.

George Lawe, Junior. Praying for a town lot in York. Ordered a town lot in York.

The Hon. Richard Duncan. Praying for a town lot in York. Ordered a town lot in York.

The Hon. James Baby. Praying for a town lot in York. Ordered a town lot in York.

B. Crannell Beardsley. Praying for a town lot in York. Ordered a town lot in York.

James McNabb. Praying for a town lot in York. Ordered a town lot in York.

Adjourned.

27th June, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. John McGill, Hon. David William Smith.

The board proceeded to read the following petitions.

Richard Wilkinson. Praying for a town lot in York. Ordered a town lot in York.

George Wimore. Praying for 100 acres to complete his military lands as a soldier reduced in 1783. Ordered 100 in addition to complete his military lands, if not granted before.

Lydia Teeple. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist.

Benjamin Spargo. Praying for lands as a settler. Ordered 200 acres under new regulations.

Polly Sherwood. Praying for lands as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist. Ordered 200 acres as the daughter of a U.E. Loyalist.

Ephraim Raymond. Praying for lands as a settler. Petitioner to be 12 months in the province before he applies for land.

Charles Reaum. Praying for lands having served last war as a volunteer. Ordered 600 acres under the new regulations.

Ann Pennock. Praying for lands as a U.E. Loyalist. Proofs wanting.

James O'Bryan. Praying for lands as a settler. To be 12 months in the province before he applies for land.

Donald McCall. Praying for a marsh and bottom lands adjoining lot 19, 1st concession, Walsingham. Referred to the Acting Surveyor General to report.

Hugh Montgommery. Praying for lands as the son of a U.E. Loyalist. Ordered 200 acres as the son of a U.E. Loyalist.

Donald McCall. Praying for lot 17 in the 4th concession of Charlotteville, being the lot that adjoins his improvements. If the lot prayed for is a reserve this petition to be filed and taken into consideration when the reserves are leased.

Jacob Lain. Praying for lands as a settler. The petitioner to be 12 months in the province before he applies for land.

William Leaky. Praying for family lands. This petitioner having preferred his claim prior to the 1st November last, ordered that his family lands be allowed him amounting to 400 acres.

Ephraim Jones. Praying lands for his wife, being a magistrate, and served last Parliament as a member of the Lower House. Ordered the petitioner's wife six hundred acres under the new regulations.

Daniel Hall. Praying for lands as a settler. The petitioner to be 12 months in the province before he applies for land.

Asa Hawl. Praying for lands as a settler. The petitioner to be 12 months in the province before he applies for land.

Six Hetchlor. Praying for the residue of his military lands. Ordered 200 acres under the old regulations as a reduced soldier to complete the quantity he was entitled to, having received 100 acres before.

Joseph Falconer. Praying for a further grant of lands to 200 acres received. Ordered 200 acres in addition under the new regulations.

Mathew Franklin. Praying for lands as a settler. The board in consequence of Mr. Jessup's recommendation, orders the petitioner 200 acres under the new regulations.

Asa Freeman. Praying for lands as a settler. When the petitioner brings his family into the province his petition will be attended to.

Henry Fairchild. Praying for lands as a settler. The petitioner to be 12 months in the province before he applies for land.

Daniel Fairchild. Praying for lands as a subaltern who served last American war, and has brought his family into the province. Ordered, 200 acres under the new regulations.

Justin Eastman. Praying for lands as a settler. The petitioner to be 12 months in the province before he is entitled to ask for lands.

Copheran Eastman. Praying for lands as a settler. The petitioner not entitled to appear for land before this board until he has been 12 months in the province.

John Elliot, for his wife. Praying for lands as a U.E. Loyalist. Ordered 200 acres as a U.E. Loyalist.

Samuel Crowder. Praying for lands as a settler, his family being in the province. Ordered 200 acres under the new regulations.

Benjamin Barns. Praying for lands as a settler, his family being in the province. Ordered 200 acres under the new regulations.

Jeremiah Beacon's petition read again, his family in the province. In consideration of the petitioner's large family and services, ordered 400 acres under the new regulations.

Jabez Culver. Praying to be admitted to the privileges of a U.E. Loyalist, and allowed a further grant of land, having been faithfully attached to the British constitution during the American war as will fully appear by the vouchers annexed. The proofs adduced, not sufficient to entitle the petitioner to be entered on the U.E. List. But the Council is perfectly satisfied that the petitioner has been firmly attached to His Majesty and the constitution of Great Britain, and the quantity of land given to him in a larger proportion than has been extended to others of his condition is a proof of their sentiments in his favour.

Alexander Auldjo, Attorney for D. McDonell. Stating that Mr. James Clark, Junior, sold to Mr. Donald McDonell, merchant, at Kingston, 1200 acres which was granted him by Government, and located as follows: west half of lot 13, the whole of lot 14, 15 and 16, 8th concession of the township of Murray, amounting to 700 acres, 400 acres in Pittsburgh and 100 acres in Marysburgh, being in all 1200 acres. Prays that deeds may issue in the name of Mr. D. McDonell for the same. The transfer prayed for permitted and ordered that the deeds for the west ½ of lots 13 and the whole of 14, 15 and 16, being 700 acres in the 8th concession of Murray, also for 400 acres in Pittsburgh, and 100 acres in Marysburgh as per Mr. Aitken's description be made out in the name of the transferee Donald McDonell of Kingston, merchant.

Levinah Mabee. The petitioner being now the head of her family and having unquestionably joined the Royal standard before the Peace 1783. Ordered that her name be entered on the U.E. List for the Home district.

(Signed) P.R.

Adjourned.

30th June, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. Alexander Grant, Hon. James Baby, Hon. David W. Smith.

The board proceeded to read the following petitions:

Eddy Wintermute's petition revised. Recommended for 200 acres under old regulations.

John Shevertfeger. Praying for the residue of his military lands as a soldier reduced in 1783, having only obtained 200 acres. Recommended for 100 acres in addition, but under new regulations. No claim to family lands.

Ludwick Shevertfeger. Praying for 200 acres as a settler. Recommended for 200 acres under new regulations.

Ludwick Shevertfeger, for his wife. Praying for lands for her as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Henry Richie. Praying for lands as a sailor. Not recommended.

Philimon Penock. A land board certificate. Recommended for 200 acres under old regulations.

Allan McDonell. Praying for lands as a subaltern, having served last American war as such. Recommended for 800 acres in addition, but under new regulations.

The President does not conceive himself justified under his instructions to admit of more than 1200 acres to be granted to any person who has not been actually commissioned as an officer in the army, or some provincial corps.

(Signed) P.R.

Ann McDonell. Praying for land as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John McIntosh. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Peter McBride, Junior. Praying for a town lot in Newark. The petitioner was in the boat that carried off Allan McNabb.

George Marselas. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Duncan McLean. A land board certificate. Recommended for 200 acres under old regulations.

Mary McDonell. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Lampson, Junior. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

James Lampson. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Anne Jackson. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Jackson. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Edward Jessup. Stating that in the year 1796, he applied to Council to be confirmed by patent in the lands he had originally asked for, and 400 acres of which (lots 26 in the 1st and 2nd concessions) was intended to cover the lower falls on the River Petit Nation, township of Plantagenet. That on his having the lines run finds that the lot which takes in said falls is known by lot 10 in the fourth concession. Prays that the mistake may be rectified and another deed issue, comprising the said falls. Recommended that the deed within mentioned be cancelled and that 400 acres including the falls mentioned in the petition be granted to petitioner.

Conrod Johnson. Praying for the residue of 100 acres to complete his military lands and family lands. Recommended for 250 acres under old regulations. Confirmed provided petitioner has 100 acres military lands due to him and has not before received family lands.

Peter Jackson. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

James Jackson. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John, Barnabas, William, Mary and Catherine Hare. Praying for lands as the children of a subaltern and a U.E. Loyalist. Recommended for 400 acres each as children of a subaltern. Confirmed 200 acres as U.E. Loyalists and 200 acres in addition, the last under the new regulations.

(Signed) P.R.

Allan Campbell. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Abraham Brown. Praying for lands to complete his military allowance as a soldier, having only received 200 acres. Recommended for 100 acres in addition under new regulations.

William Berger. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Lewis Bright. Praying for lands as a disbanded soldier, who served last American war in His Majesty's 8th Regiment of Foot. Recommended for 200 acres under the old regulations and 100 acres under the new regulations.

John Brown. Praying for lands as a settler. To lie over till his family are in the province.

Frederick Bouck, for his wife. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jacob Rosenburg. Praying for 100 acres to complete his military lands as a soldier, and family lands. Recommended for 100 acres in addition under new regulations, but no claim to family lands.

Joseph Hicks. Land board certificate. Military claimant. Recommended for 200 acres as being a soldier, under the old regulations.

I cannot confirm transfers of blank certificates, nor does it appear that Weeks was a soldier.

Elizabeth Garlock. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Aaron Bull. Praying for his military lands as a soldier reduced in 1783, having only obtained 60 acres at Sorel, and also for family lands. Recommended to be made up 300 acres, deducting 60 acres received at Sorel as a discharged provincial soldier and 250 acres for family lands, they having been and now are settled in the Bay of Quinté (by information from Captain Fraser) 10 years.

Jonas Barns's Heirs. Praying permission to sell the lot lately occupied by Jonas Barns. Upon the special circumstances of the case. Recommended that the lot lately occupied by Jonas Barns be granted to Laurence Leman under the old regulations.

Josiah Cass. Praying for an additional grant of lands. It being understood that the petitioner is a proper person to be included in the next general commission of the peace. Recommended for 1200 acres inclusive under new regulations.

Paul Glasford. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Peter Garlock. Praying for 100 acres of land which are due him as part of his military lands. Recommended for 100 acres in addition under new regulations.

Henry Fisher, for his wife. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Lewis Frederick, for his wife. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Fleming. Praying for lands as a settler. The Chief Justice recommending the petitioner as a man of integrity and sobriety, recommended for 200 acres under the new regulations.

Jacob Dorn, for his wife, daughter of Henry Huff. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Fraser. Praying for lands as the son of a captain. Recommended for 600 acres as a U.E. Loyalist and son of a captain.

Confirmed in 200 acres as the son of a U.E. Loyalist and 400 acres to make up the quantity allowed persons of the petitioner's description, but the latter to be under the new regulations.

William Fraser. Praying for lands as the son of a captain and a U.E. Loyalist. Recommended for 600 acres as the son of a captain.

Confirmed in 200 acres as the son of a U.E. Loyalist, if not granted before and 400 acres under the new regulations to place the petitioner on an equal footing with persons of his description.

Grace Fraser. Praying for lands as the daughter of a captain. Recommended for 600 acres as the daughter of a captain.

Confirmed in 200 acres as the daughter of a U.E. Loyalist, if not granted before, and 400 acres under the new regulations to place the petitioner on an equal footing with persons of her description.

Grace Fraser. Praying for lands as the daughter of a captain. Recommended for 600 acres as the daughter of a captain.

Confirmed in 200 acres as the daughter of a U.E. Loyalist if not granted before and 400 acres under the new regulations to place the petitioner on a footing with persons of her description.

The Hon. Richard Duncan. Stating that he has several deeds in the Attorney General's office made out in his own name and in the names of some individuals of his family and others under description ready to make out (all in consequences of orders of Council) which he requests an order to receive, subject, nevertheless, to any fees that may be attached to them, or to any caveats that may be entered against them. He also requests a similar order to the Secretary with this addition, that he may be further indulged to receive any deeds already issued or not remaining in his office, for which Captain Duncan can produce powers of attorney, in the name or names of the original nominees. Recommended that the order of the 15th instant be suspended as to deeds in Captain Duncan's name, or those of his wife, son or daughter now lying in the Secretary's office, and as to the deeds for which the Attorney General was lately directed to issue his fiat in favour of Captain Duncan.

Nicholas Frymire. Praying for lands for his wife, she being the daughter of Philip Walter, a U.E. Loyalist, and is enrolled upon the U.E. List for Eastern district. Recommended for 200 acres as a U.E. Loyalist.

Sarah Doyle. Recommended that the petitioner be put on the U.E. List.

Adjourned.

2nd July, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. John Elmsley, Chief Justice; Hon. Alexander Grant, Hon. James Baby, Hon. John McGill, Hon. David William Smith.

Yonge Street report. Agreeable to the order of Council of the 16th the Yonge Street report was laid again before the board, and the following names are confirmed in the lots opposite to them respectively.

Benjamin Clark,	Lot 15, East Side.
Jacob Gomer,	" 18, " "
Lawrence Johnson,	" 19, " "
Nicholas Johnson,	" 20, " "
Thomas Johnson,	" 21, " "
Richard Lawrence,	" 25, " "
Frederick Baron D'Hoen,	" 1, West Side.
James Ruggles,	" 2, " "
Joseph Kendrick,	" 6, " "

Duke William Kendrick,	Lot 7,	West Side	
Hiram Kendrick,	“ 8,	“ “	
John Kendrick,	“ 9,	“ “	
Thomas Hill,	“ 15,	“ “	
Joseph Shephard,	“ 17,	“ “	
John Wilson, Junior,	“ 18,	“ “	
Abraham Johnson,	“ 19,	“ “	To be confirmed if actually resident.
Josiah Johnson,	“ 20,	“ “	
John Conn,	“ 21,	“ “	Actually living, to be confirmed.
Paul Willcot,	“ 23,	“ “	

Township of Markham

John Lyons,	Lot 23.
Nicholas Miller,	“ 34.
Balsu Monshur,	“ 35.
Thomas Lyons,	“ 42.
John Dexter,	“ 43.

Township of Vaughan, West Side Yonge Street

Jacob Fisher,	Lot 26.
John Fisher,	“ 27.
Mathew Chapman,	“ 28.

Adjourned.

3rd July, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. Alexander Grant.

Read the following petitions:

Charles Ward. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Amos Nettleton, Junior. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Esther Fresby. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

James Grant. Praying to be confirmed in 500 acres formerly granted him by the land board. Recommended that petitioner be confirmed in 500 acres under old regulations.

David Hamlin. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as the son of a U.E. Loyalist.

Margaret Scott Steel. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Samuel Sherwood. Praying for lands in addition as a magistrate. Recommended for 700 acres in addition under new regulations.

Reuben Sherwood. Praying to have his name put on the U.E. List. Recommended that petitioner's name be put on the U.E. List.

John Scott. Praying for the residue of his military lands as a reduced soldier. Recommended for 200 acres in addition under the new regulations.

Peter Tuttle. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jane Towers. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Anthony McCready. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Harry Michel. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Robert McLean. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

David McCready. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Amos Nettleton. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Daniel Tuttle. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Diana Smades. Praying for lands as the daughter of a captain. Recommended for 600 acres as the daughter of a captain.

Thomas Sherwood. Praying to have his name enrolled on the U.E. List, being one who comes under the description. Recommended that petitioner's name be put on the U.E. List.

Unah McVey. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mercy Meriman. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Anne McCready, daughter of Allan Grant. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Oliver Everts. Praying to be allowed 1500 acres of land to complete his military allowance and which will confirm his land board certificate. Recommended that the recommendation of the land board of the Eastern district be confirmed and that 1500 acres be granted to petitioner under new regulations.

Boswell Everts. A land board certificate, a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Phebe Chester. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Chester. Praying for lands to make up his military lands. Recommended for 100 acres in addition on the enclosed certificate under old regulations.

Jonathan Black. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sarah Mitchel, daughter of David Bissell. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John McCready. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Francis Teirey or Carrey. Praying to be confirmed in 500 acres of land due him as military lands agreeable to his land board certificate. Recommended for confirmation under old regulations.

William Caldwell, Esq. Praying to have his sons William's and James's grant made out for a certain marsh in Malden and also for lots 60, 61 in said township, etc., and also that he may receive a grant of 1200 acres as one of the nominees of the township of Malden to put him on a footing with other nominees of townships.

Recommended that the irregular tract of land, generally called Caldwell's marsh, comprehending the greatest part of two knolls or islands lying to the S.E. of A. Clark's lot running to a point in the rear of the 1st concession of

Malden and otherwise generally bounded as represent on the Quebec plan be confirmed to the petitioner's children agreeable to the spirit of the Quebec Order. It also appearing by the information of the Honourable J. Baby that the lots 60 and 61 were formerly granted to the petitioner's sons. Recommended that they be confirmed to them under old regulations. Also recommended for 1200 acres as a nominee of the township of Malden under old regulations and also 250 acres as family lands, but under new regulations.

Samuel M. Buck. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Sarah Jones. Recommended that Mrs. Sarah Jones be put on the U.E. List for the Eastern district.

Olive Bishop. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Daniel A. Buck. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Thomas Schofield. Stating that he purchased a tract of land from Mr. Thompson known by the name of lot 7, 1st concession of Thurlow. Prays that the same now be confirmed to him. Recommended that lot 7, 1st concession Thurlow be granted to petitioner.

Confirmed, the transfer from Samuel Thompson having been permitted.

(Signed) P.R.

Mehitable Buck, in behalf of her late husband, Samuel Buck. Stating that her late husband received 60 acres at Sorel, where he resided until his death. That she afterwards moved into this province with her family in the year 1791. Prays that she may receive 240 acres in right of her husband deceased, who served as a soldier last war, and that either her name, or that of her husband be put on the U.E. List. Recommended that the name of Mehitable Buck be put on the U.E. List for the Eastern district and that she have 200 acres as a U.E. Loyalist.

Stephen W. Buck. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Abigal Baldwin. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

William Parke, John McGregor, Robert Innis and Richard Pattinson. Praying for park lots in the town of Sandwich, Western district. Recommended to be granted. (Omitted to be entered 26 February, 1798.)

Confirmed. P.R.

Nathaniel Tredwell's petition was read again on the 12th of February with several inclosures. (Omitted 12th February, 1798.) Whenever Mr. Tredwell the petitioner produces to this board such a title as can be recognised in this province, the board will not object to an exchange of part of his seignory for waste lands of the King agreeable to a plan thereof which the Surveyor General produced in Council in the meantime an appropriation thereof is ordered.

Adjourned.

4th July, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. Alexander Grant, Hon. James Baby, Hon. John McGill.

Read the following petitions:

Jane McDonell. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Colin Murchinson. Praying for lands as the son of a U.E. Loyalist. Petitioner being of age, recommended for 200 acres as a U.E. Loyalist.

John McDonell. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Alexander McGlaughlen. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Isabella McKinsie. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Isabella McGillis. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth McDonell. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret McDonell. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Hanah McIntire. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Roderick McDonell. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Isabella McDonell. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Heneritta McDonell. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John McDonell. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

John Roy McDonell. Praying to have his lands made up as the son of a U.E. Loyalist. Recommended for 100 acres in addition as a U.E. Loyalist.

Roderick McDonell. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Archibald Grant. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Grant. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Allen Kennedy. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Alexander Kennedy, Senior. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Hays. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Catherine Campbell. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Cameron. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Clark. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Janet Struthers. Praying for lands as the daughter of a loyalist. Recommended for 200 acres as a U.E. Loyalist.

Flora Young. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Janet Rose. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Adjourned.

5th July, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. Alexander Grant, Hon. James Baby, Hon. David W. Smith.

Read the following petitions:

Isaac Mitchel, discharged Ranger. Praying for his military lands. Recommended for 200 acres in addition to complete his military lands in Tobicott.

John Morden. Praying for lands for his wife as the daughter of a U.E. Loyalist. The wife of the petitioner recommended for 200 acres as a U.E. Loyalist.

James Keeler. Praying to have his land board certificate confirmed. Recommended for 200 acres on the inclosed certificate under the old regulations.

William Faulton Farwell. Praying for lands as a settler. Recommended for 200 acres under new regulations.

John Jones. Praying for family lands. Recommended for 400 acres family lands under old regulations.

John Rogers. Praying to be confirmed in a certificate which he received from the land board, Eastern district, in the year 1791. To lie over till petitioner is actually a *bona fide* settler in the province.

Mary Rogers. Praying for land. To lie over till petitioner is actually a *bona fide* settler in this province.

Elijah Huson. Praying for lands as a U.E. Loyalist and to have his name inserted on the U.E. List, and also for his brother Caleb to receive the like indulgence being also entitled. The petitioner and his brother recommended for 400 acres each and to be put on the U.E. List.

Confirmed in 200 acres each as U.E. Loyalists and an addition of 200 acres each under the new regulations.

William Hollingshead, in behalf of his wife. Praying for lands as a U.E. Loyalist. If Thomas Hill's name is put on the U.E. List, petitioner's wife is recommended for 200 acres, if not, she is not recommended.

Adjourned.

6th July, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Esq., Chief Justice; Hon. James Baby, Hon. Alexander Grant, Hon. David William Smith.

Read the following petitions:

Mary Tice. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as the daughter of a U.E. Loyalist.

Susannah Tripp. Praying for lands as a U.E. Loyalist's daughter. Recommended for 200 acres as a U.E. Loyalist.

Susannah Young. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Ann Ashford. Praying to be put on the U.E. List, being entitled to that distinction. Recommended to be put on the U.E. List.

David Burns, Esq. Praying that he may receive his deed for 2,000 acres as a reduced surgeon last war free of every expence. The prayer of this petition granted.

Joseph Brant. Praying that his deceased son Isaac's military lands be granted to his wife and family. Recommended that 400 acres be granted to the wife and children of the late Isaac Brant (as his military lands) as tenants in common under old regulations.

Isaac Cole. Praying for land as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Mary Cryderman. Praying for lands as a U.E. Loyalist, and that her name be put on the U.E. List. Recommended for 200 acres as a U.E. Loyalist and that the petitioner's name be put on the U.E. List for the Midland district.

Conrod Cole. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Martin Dunyas. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Eleanor Dugall. Praying for lands as the daugher of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

James Dugall. Praying for lands as the son of a U.E. Loyalist. Certificate of age wanting.

John Gamble, Esq. Praying for a town lot in York. Recommended for a town lot in York.

William Fortune. Stating that from the knowledge he has acquired of the lands in the Eastern district of this province by his profession as land surveyor, and particularly that part of the district, bounding on the southern banks of the Grand river, has therefore (on account of a late application made to your Honours for land by N. H. Tredwell late from Platsborough, state of New York) taken the liberty to state to your Honours, that the lands so applied for, there has been prior application made by some of His Majesty's true subjects, now residing on the banks of the Grand river, south side, as also the prayed for military lands of Captain John Whitlock of the Queen's Rangers.

That on account of the certain knowledge your petitioner has, that the said N. H. Tredwell is not a true subject to His Majesty King George, and that he the said N. H. Tredwell is not a Christian, denying Christ the Saviour of the world, and preferring the works of Tom Pane to the Holy Bible; your petitioner therefore in order to discover the very great deception of the said N. H. Tredwell, and the sore displeasure and loss that will arise to the true servants of the Crown now residing on the banks of the Grand, or Ottawa River (whose feelings are exceedingly hurt by his ungodly expressions) should he the said N. H. Tredwell possess said lands.

Your petitioner has taken the liberty to produce a sketch of said lands, setting forth the situation thereof, praying your Honour will take into your consideration the above circumstances, and that those who have made prior applications for part of said lands so described, may be taken into your Honour's consideration, and that he the said N. H. Tredwell may not receive a grant for the lands so applied for.

Mr. Robinson, the Attorney of Mr. Tredwell, to be written to to attend to-morrow at 11 o'clock.

Richard Gamble. Praying for a town lot in York, together with such quantity of lands as may be judged meet. Recommended for a town lot in York, the remainder of his petition will be attended to when he has been resident 12 months in the province.

Martin Harris. Praying for lands as the son of a U.E. Loyalist. A certificate being adduced, ordered 200 acres as the son of a U.E. Loyalist.

Sarah Hufnagle. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Margaret Honsinger. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Huldah Harrison. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Cutlip Michael. Praying for military lands as a soldier who served last American war, and for lands for his wife Elizabeth as the daughter of a U.E. Loyalist. To stand over for a certificate of discharge as to the petitioner's claims of military lands; but his wife is recommended for 200 acres as a U.E. Loyalist.

Eleanor Smith. Praying for lands as the daughter of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Jerusha Spencer. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

James Palmerton. Praying for lands as a soldier having served as a volunteer under Captain Brant last American war. Recommended for 300 acres as a soldier, if not granted before.

Samuel Peek. Praying for lands as a U.E. Loyalist. Recommended for 200 acres, if not granted before.

Cornelius Peek. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist, if not granted before.

James Peek, Junior. Praying for lands as the son of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist. The proof of his father-in-law's having been a captain is insufficient.

James Peek, Senior. Praying for lands, having served in the Guides and Pioneers during the late American war. Recommended for 200 acres as a U.E. Loyalist and 100 acres under the new regulations.

Stephen Roblin. Praying for lands in addition, having been in the block house commanded by captain when General Wayne was defeated, and in which action he was wounded. Recommended for 300 acres in addition as a block house man under new regulations.

Fredericka Myers. Praying for lands as a U.E. Loyalist's daughter. Recommended for 200 acres as a U.E. Loyalist.

Truman Knappen. Praying for to have the residue of 200 acres which are due his late father given to himself and brother David the only two surviving sons, and also for 200 acres each to himself and brother as the sons of a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist. Petitioner and his brother recommended for 200 acres in right of their late father under new regulations. But no warrant to issue for the latter 200 acres until a certificate is filed of the number of the deceased's children.

Daniel Laughlin. Praying for lands as a settler. Recommended for 200 acres under the new regulations.

Samuel Heron. Praying for a further time to comply with the conditions of Yonge Street, having purchased lot 9, east side. Recommended that petitioner be allowed till the 1st September to comply with the Yonge Street conditions.

Samuel Street. Praying to be confirmed in several transfers for lands in this province which he holds from the several persons as here below named.

On examining the transfers, it appears that they are all proper objects for the determination of the Council, except one, Ostrander's.

Transferred as follows:

John Coon to Samuel Street (700 acres), lots 19, 21 and 23, 4th concession Vaughan, 600 acres and east half of 19 in 5th concession 100 acres.

Edmund Hodges to S. Street, 200 acres lot 6 in the 2nd concession Gainsbro'.

Ebenezer Hodges to S. Street, lot 7 in 2nd concession 200 acres, Gainsbro'.

William Johnston to S. Street, lots 12 in 4th concession 100 acres; lots 7, 8, 9, 10, 11, 12, 5th concession, 600 acres; lots 1, 2, 3, 7, 8, 9, 6th concession, 600 acres; lots 13, 14, cross concession, 200 acres; lots 15, 30 a gore, 100 acres, Willoughby; lots 17, 18, 19; 3rd concession; lots 14, 16, 18, 19, 4th concession, 1,400 acres, Oxford-on-Thames—3,000 acres.

John Wilson, Junior, to S. Street, lots 188 and 189, 200 acres Thorold.

George Scarlet to S. Street, lots 14 and 15, 3rd concession, 200 acres Willoughby.

Peter Arter to S. Street, lots 13 and 14, 4th concession, 200 acres, Willoughby.

Nathan Wheeler to S. Street, lots 2 and 3, cross concession, 200 acres, Willoughby.

Philip Stedman, Junior, to Samuel Street, lots 18, 19 and 20 in the 1st concession with the broken fronts of 19 and 20, so much of lots 21 and 22 with the broken fronts 21, 22 and 23 as lies to the E. of the transfer line running across those lots in Willoughby, 800 acres.

Peter Colorake to Samuel Street for lots 10, 11, 12, 300 acres, Willoughby.

Samuel Cox to Samuel Street for lots 15 and 16, 4th concession, 200 acres, Willoughby.

Peter Laroway to Samuel Street for lots 11, 12 and 13, 3rd concession, 300 acres, Willoughby.

Peter Caine to Samuel Street for lot 15, 4th concession, 200 acres, Gainsboro'

John Young to Samuel Street, lots 19 and 20, 11th concession and the east. half 18 and the broken lot 19, 12th concession, 500 acres Walpole.

The Surveyor General is authorised to throw the broken front into the description of the lot immediately behind it in the first concession when that broken front does not exceed fifty acres, but with respect to the claims coming before the commissioners which may in many instances require an extension of this indulgence or occasion double deeds and a consequent expence to Government, in order to obviate this difficulty, the Chief Justice or other judge who sits in the court of claims is requested to act in such cases according to his discretion and his decision will be confirmed by the board.

Abraham Mattice. Praying to be allowed to locate 200 acres of land upon Yonge Street as near the location of Walter Moody his father-in-law as may be. Recommended for a location on Yonge Street as near as convenient to the rest of his family.

Adjourned.

7th July, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esq., President; Hon. John Elmsley, Chief Justice; Hon. James Baby, Hon. David William Smith.

Read the following petitions:

William Fortune. Read the petition of William Fortune dated the 25th June, 1798, stating that to his certain knowledge N. H. Tredwell is not a true subject to His Majesty King George, and that he the said Tredwell is not a Christian, denying Christ and preferring the works of Tom Paine to the Holy Bible and that it would in consequence cause sore displeasure and loss to the true servants of the Crown now residing on the Grand or Ottawa River (whose feelings are exceedingly hurt by his ungodly expressions should the said N. H. Tredwell possess the lands Government has promised under certain conditions and therefore praying that the prior application for those lands, made by His

Majesty's subjects may be taken into the consideration of the board and have its due weight.

Read also another petition of the said Mr. Fortune dated the 21st June, 1798 in behalf of sundry persons who pray to have settlements in the township of Hawkesbury.

Read also another petition from Josiah Cass and sundry others which had been read in Council May 2nd, 1797, praying for a settlement in township no. 2 now called the west part of Hawkesbury on the south side of the Grand or Ottaway River, beginning in the 3rd concession of front lot 5 and extending westward. again beginning in the 4th concession of front lot 4 to extend westward and in the 5th concession covering in the whole 2,850 acres, which the Council consented to at the time, whenever the allegations set forth in the petition should be found by the Deputy Surveyor of the district to be as therein stated.

Mr. Fortune being called before the board, and being asked what knowledge he had of Mr. Tredwell's conduct and expressions which induced him to entertain the opinion of him which he set forth in his petition, declared that he had himself heard Mr. Tredwell speak very much in favour of the American Government and disrespectfully of the British Government, and endeavoured to turn the Bible into ridicule, in short that from what he himself heard him say, and was told by others in whose report he could confide, that he had said in their presence he had not a doubt but he was inimical to the British constitution and the Christian Religion and that he could prove it whenever called upon.

Read a letter from the Surveyor General dated the 23rd of February, 1797, with the copy of a letter from Mr. Tredwell to him dated the 28th January, 1797, also another letter from Mr. Tredwell dated 7th November, 1797. On the Surveyor's letter is endorsed 7th March, 1797. N. Tredwell's title to interfere with the lands in this province must be ascertained before he can be permitted to make surveys or run lines in any township or seignory. Read again in Council the 12th of February, 1798, and endorsed, whenever Mr. Tredwell produces to this board such a title as can be recognized in this province, the board will not object to an exchange of part of his seignory for waste lands of the King agreeable to a plan thereof which the Surveyor General now produced in council. In the meantime an appropriation thereof is ordered.

Mr. Robinson, attorney for Mr. Tredwell, appeared before the board and produced a conveyance from Monsieur Longuiel to Mr. Tredwell of the seignory De Point a Lorignac drawn up in English according to the manner in which conveyances are usually made under the British laws, specifying the boundaries of the said seignory to be according to the plan of a survey taken by a Monsieur Papineaux, but not warranting those or any other boundary lines whatsoever.

On examining the plan which has been produced in Council on the 7th February, 1798, it appeared that the land prayed for by Cass and others lies within the boundaries of the land in Hawkesbury requested and ordered afterwards to be appropriated to Mr. Tredwell.

Mr. Robinson being again called in and being asked whether Madam Longuiel had resigned her dower, he answered that he believed not because Mr. Tredwell informs him by a letter that to determine this question he examined the marriage contract by which to his great surprise he finds that all Monsieur Longuiel's estate real and personal is mortgaged to her Mrs. Longuiel for the security of her dower amounting to 10,000 livres.

Referred the further consideration to Monday when all the members are to be summoned to attend.

(Signed) P.R.

Benjamin Hardison. Praying to have lot 3, 1st concession in the township of Bertie confirmed to him, having bought the same from John Warren, Esq., of Fort Erie. The transfer permitted.

John Eversie's petition revised. Ordered 200 acres as a U.E. Loyalist, and 100 acres in addition to complete military lands, if not granted before, the last under the new regulations.

Joseph Morden. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Aaron Greely. Praying to be remunerated for his expences in the surveying of the townships of Haldimand, Hamilton and Piercy. It appearing from the Surveyor General's report that the surveys in Hamilton made by Mr. Azariah Root, surveyor will save Government the expence of £118 (the sum prayed for). Ordered that one hundred and eighteen pounds be paid to Mr. Aaron Greely, the deputy of Mr. Marshall Jones one of the original nominees of the township of Hamilton, in full of all claims from the nominees or surveyors of the said township, for surveys made therein on the part of Government, on his giving bond to the Surveyor General to warrant Government against all other demands on that score, and ordered that the Surveyor General do charge this sum in his half yearly account of the expences of his department.

Jacob Farrand. Jacob Farrand, clerk of the peace for the Eastern district maketh oath, that John Valentine, the grantee mentioned in a certain deed under the Great Seal of the province of Upper Canada, and dated the first day of September, 1797, for lots 15 and west half of 14 in the 1st and 2nd concession of Williamsburg in the said district, has been dead for several years prior to the date of said deed, which is now before His Majesty's Executive Council for the said province: That 500 acres of the land specified in the said deed was, after the death of the said John Valentine, with the consent of his heirs and his widow, sold at public sale for the paying of the debts and the settlement of the affairs of the estate, that he this deponent was authorised to sell, and did sell the same at public auction and that it was purchased by the late Colonel James Gray for and on account of the said widow, Catherine Valentine, now residing in Cornwall in the said district, for the sum of one hundred and twenty-two pounds Halifax currency, that the other one hundred acres of land mentioned in the said deed, being the west half of lot 15 in the first concession, was long before the death of the said John Valentine, bargained for, and conditionally transferred by him to one William Franks who is now in possession of the land and improving the same.

(Signed) J. Farrand.

Sworn before me the 20th day of June in the year of our Lord 1798 at York in the said province.

(Signed) J. Elmsley, C.J.

If it should be the pleasure of the Honourable the Executive Council to order a deed to be made out in the name of the above mentioned Catherine Valentine for the whole of the land specified in the above mentioned deed, I will and do hereby pledge myself that the said William Franks shall be secured in his one hundred acres by a conveyance from the said Catherine Valentine.

(Signed) Jacob Farrand.

The deed mentioned in this petition having been produced to the board, and it appearing that John Valentine the grantee was dead before the date of the said deed, ordered that the deed be cancelled, which being done accordingly before the board, ordered that another deed be prepared and executed conveying the same specifick lots and other parcels of lands therein mentioned to Mrs. Catherine Valentine widow of the deceased.

Abraham Bonter. Praying that lot 12 on the south side of the Carrying Place at the head of the Bay of Quinty may be granted to his wife Catherine, she being the daughter of a U.E. Loyalist, and he having made improvements thereon. Wanting further proof of the father of the petitioner's wife being a U.E. Loyalist.

Mary McDonell. Praying for lands being the daughter of a U.E. Loyalist and a captain who served last American war. Ordered 200 acres as the daughter of a U.E. Loyalist, if not granted before, and 400 acres in addition under the new regulations.

Peter Smith. (Omitted 26th May, 1798.) Praying to be confirmed in 1200 acres which was formerly appropriated to him in the township of Hope. It appearing to the board the 1200 acres had been appropriated to the petitioner by His Excellency the Lieutenant Governor's order when the township of Hope was first surveyed, ordered that 1000 acres be granted to him under the new regulations and 200 acres as the son of a U.E. Loyalist.

Alexander McMillan, a reduced lieutenant. Stating that he memorialed His Excellency the Lieutenant Governor in Council for a quantity of lands to be located to him in lots 35 and 36 in the 13th and 14th concessions of the said township, and his name was inserted in pencil, on the plan for the said lots; but owing to some mistake the memorial was not presented, and your petitioner not having obtained an order of Council, the said lots have since been filled up as reserves for the Crown. Wherefore prays your Honour will be pleased to order the reserve to be taken off the above mentioned lots and his name to be inserted instead thereof and for to allow him a further grant of lands. Ordered that the Crown reserves on lots 35 in the 13th concession and 36 in the 14th concession be taken off and those lots assigned to Lieutenant McMillan agreeable to the Surveyor General's report and that the lands ordered to the petitioner be made up 2,000 acres the portion of a subaltern officer reduced.

Adjourned.

9th July, 1798.

Council Chamber, York.

Present: His Honour the President, Hon. John Elmsley, Chief Justice; Hon. Alexander Grant, Hon. James Baby, Hon. AEneas Shaw, Hon. John McGill, Hon. David William Smith.

The President having read to the board the proceedings of Council on the 7th instant, respecting the exchange solicited by Mr. Tredwell, proposed the following questions to the board.

Whether the conveyance from Monsieur De Longuiel to Mr. Tredwell conveys such a title as this board can recognise for the purpose of accepting any portion of lands in it for a like portion of lands of the Crown in Hawkesbury.

Whether Mr. Tredwell's apparent principles are deserving of any favour from Government.

And whether Mr. Cass and others claiming locations in Hawkesbury under a conditional order of Council dated 2nd May, 1797, do not give them a preference to any subsequent application for the same lands from Mr. Tredwell. And should the board judge proper to rescind the appropriation, ordered to Mr. Tredwell in Hawkesbury on the 12th of February, 1798, last whether they may not judge it proper to secure any settlers whom Mr. Tredwell may in consequence have placed on those lands in their actual improvements to the extent of 200 acres each.

The President having withdrawn the board took these questions into consideration and came to the following resolutions:

1st. That the title produced by Mr. Tredwell is not such as can be accepted by this Government and as his religious and political principles do not appear to be such as to entitle him to further favour. The board is of opinion that the appropriation ordered by the minute of Council the 12th of February last ought to be thrown open.

2nd. That twelve months be allowed to the persons whose names have been returned by Mr. Tredwell, as being settled by him on the tract in question to come forward and pray in their own persons for the lands for which they are respectively entered.

Approved and confirmed in Council.

(Signed) Peter Russell, President.

Paul Trompour's petition revised. It appearing from the report of the Surveyor General that though the lot in question has been submitted for a clergy reserve, it has not yet been applied, recommended that it be not reserved and that it be granted to petitioner.

Adjourned.

10th July, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. Alexander Grant, Hon. James Baby, Hon. John McGill, Hon. David William Smith.

Read the following petitions:

Richard Gamble, in consequence of His Honour the President's letter to Mr. Small. On reading a letter from the President to Mr. Small it is apprehended that the information given by Mr. Gamble on which that letter is founded is erroneous, as the order of Council does not mention any specifick quantity of land, or pledge the faith of Government that any will be granted.

Richard Beasley. Praying to have the broken front granted to him of the lots which were formerly in dispute with the heirs of the late Captain Lotteridge (and which is now amicably settled), he having made valuable improvements thereon. Recommended that the broken fronts prayed for be granted, and that the petitioner have leave to build a wharf and store house in the most convenient place, on the beach, with an acre of the waste lands of the Crown thereunto adjoining.

Adjourned.

11th July, 1798.

Council Chamber, York.

Present: Hon. the Chief Justice, Hon. Alexander Grant, Hon. James Baby, Hon. David W. Smith.

Read the following petitions:

Solomon Wilsey. (Read on 22nd December, 1797.) Praying for lands as a U.E. Loyalist's son. Certificate of age being produced, recommended for 200 acres as a U.E. Loyalist.

Cornelius Wilsey. Praying for lands as the son of a U.E. Loyalist. Certificate of age being produced, recommended for 200 acres as a U.E. Loyalist.

John Snider, Junior. Praying for lands as the son of a U.E. Loyalist. Certificate of age being produced, recommended for 200 acres.

Mathew Snider. Praying for lands as the son of a U.E. Loyalist. Certificate of age being produced, recommended for 200 acres as a U.E. Loyalist.

Peter Snider. Praying for lands as the son of a U.E. Loyalist. Certificate of age being produced, recommended for 200 acres as a U.E. Loyalist.

Nathan Burtch. Praying for lands as a soldier having served last American war, until the reduction in 1783. Recommended for an appropriation of 300 acres as a soldier under old regulations.

John Jones. Praying to have his wife and 9 children's land confirmed to them, he having served last war as a captain and his health now declining. Warrants may issue for Thomas and Sarah Jones under old regulations.

William Hollingshead. Praying to be permitted to occupy lot 42 on the west side of Yonge Street in lieu of lot 30 on the east side, it being very broken and swampy land. Recommended for a lot on Yonge Street.

Thomas Ingersoll. (Omitted 6th July, 1798, which was read 28 February, 1798.) Praying to be remunerated for the expence of surveying the township of Oxford on the Thames. Surveyor General's Report on the claim of the petitioner for being remunerated the expence of survey in the township of Oxford on the Thames, ordered that the sum of fifty-three pounds to be allowed to the petitioner for that service and the Surveyor General to charge the same in his half yearly account.

Adjourned.

12th July, 1798.

Council Chamber, York.

Present: Hon. John Elmsley, Chief Justice; Hon. Alexander Grant, Hon. James Baby.

Read the following petitions:

Alexander Laughlin. Praying to have his name put on the U.E. List. Recommended that petitioner's name be put on the U.E. List for the Midland district.

Francis Larocque, Junior. Praying to have his military lands as a soldier completed, having received but 100 acres. Recommended for 200 acres in addition but under new regulations.

Alexander Laughlin. Praying for lands in addition as a U.E. Loyalist having only received 100 acres. Recommended for 100 acres in addition as a U.E. Loyalist.

Gideon Shutiff. Praying for lands as a settler. Recommended for 200 acres under new regulations.

John Sheiley. Praying for a town lot in the town of Kingston. Recommended for a town lot in Kingston.

Francis Larocque. Praying for lands in addition for his services. Recommended for 200 acres in addition but under new regulations.

Darcus Peters, formerly Darcus Snyder. Praying for lands as a U.E. Loyalist. Recommended for 200 acres as a U.E. Loyalist.

Elizabeth Simmons. Praying for lands in addition as the daughter of a lieutenant. Recommended for 200 acres in addition as the daughter of a lieutenant under new regulations.

Robert Innis. Petition revised. Recommended for 1200 acres inclusive but under the new regulations.

Alexander McDonell. Praying for a town lot in Kingston. Recommended for a town lot in Kingston.

John Howard. Praying for an additional grant as the son of a lieutenant having only received 300 acres of land. Recommended for 100 acres in addition as the son of a lieutenant under new regulations.

Elijah Peters. Praying for lands as a settler. On Mr. Robinson's recommendation, recommended for 200 acres under the new regulations.

Samuel Peters. Praying for lands as a settler, also for lands for his wife as the daughter of a U.E. Loyalist. Petitioner recommended for 200 acres as under new regulations. His wife recommended for 200 acres as a U.E. Loyalist.

John Parry. Praying for lands as the son of a U.E. Loyalist. Mr. Robinson certifying the petitioner is of age, recommended for 200 acres as a U.E. Loyalist.

Ralph Clark. Praying for lands as a settler. On Mr. Booth's letter, recommended for 200 acres under new regulations.

John Cronkright. Praying for lands as a soldier discharged. Let there be an affidavit that petitioner has never received any lands.

Daniel Clark. Praying for lands as a settler. On Mr. Booth's letter recommended for 200 acres under new regulations.

Eliza Connor. Praying for lands being the daughter of a U.E. Loyalist and subaltern. Mr. Robinson assuring that petitioner is what she states herself, recommended for 200 acres as a U.E. Loyalist and 200 acres more under new regulations.

Hercules Cronkright. Praying for lands as a soldier. To lie over for an affidavit that petitioner hath never drawn his lands as a soldier.

Elizabeth Davy. Praying for lands as the daughter of a U.E. Loyalist, being of age and never yet drawn any. Recommended for 200 acres as a U.E: Loyalist.

Oliver Arnold. Praying for lands as a soldier, and also for lands for his wife as the daughter of a U.E. Loyalist. Petitioner's wife recommended for 200 acres as a U.E. Loyalist. Petitioner's claim to lie over until he makes an affidavit that he never has drawn his lands.

Nathaniel Hastings. Praying for lands as a settler. Recommended for 200 acres under new regulations.

Armstrong Williams. Praying for the residue of his military lands as a soldier, having only drawn 100 acres and lands for his wife as the daughter of a U.E. Loyalist. Petitioner's wife recommended for 200 acres as a U.E. Loyalist. Petitioner's claim to lie over for an affidavit that he has never drawn his lands.

Thomas Vardy. Praying to have his name put on the U.E. List. Recommended that petitioner's name be put on the U.E. List for the Midland district.

Adjourned.

13th July, 1798.

Council Chamber, York.

Present: His Honour Peter Russell, Esquire, President; Hon. John Elmsley, Chief Justice; Hon. Alexander Grant, Hon. James Baby, Hon. John McGill, Hon. David William Smith.

Read the following petitions:

James Thompson. Praying for lands as an old settler and servant of the Crown. Recommended for 1200 acres under new regulations, but no warrant to issue until a certificate is filed of petitioner's being actually settled in the province.

Peter L'Etourneau. Praying for lands as a serjeant. Recommended for 500 acres as under new regulations.

Commodore Grant's petition revised, being read on the 8th July, 1798. The board having revised the former proceedings, and Commodore Grant having withdrawn so much of his petition as relates to lots 23, 42 and 45, recommended that he be confirmed in lots 24, 25 and 43.

John, Duke William and Joseph Kendrick. Praying for a further grant of lands and to have their names put on the U.E. List. Recommended for 200 acres each in addition under new regulations but they have no pretentions to be put on the U.E. List.

James Baby. Praying to be confirmed in lot 16 in the 1st concession of York which has been set apart for him. Ordered that lot 16 in the 1st concession of York (100 acres) formerly appropriated to the petitioner be confirmed by patent under the condition for which it was given.

Report on Mr. Robert Hamilton's claims, by the Acting Surveyor General.

To His Honour Peter Russell, Esquire, President, administering the Government of Upper Canada, in Council.

May it please your Honour:

In obedience to your Honour's commands to report upon 16 claims allowed before the land commissioners for the county of Lincoln, I am to inform your Honour that I do not find any descriptions to have issued for the lots contained in their report but I take the liberty of suggesting whether in order to make Mr. Hamilton safe in the first three claims, it may not be proper for your Honour to sanction them in Council, for altho the whole of the township of Ancaster is generally taken as part of the county of Lincoln, yet strictly speaking the lands alluded to are in the County of York, all which is however submitted to your Honour's wisdom.

(Signed) D. W. Smith,
A.S.G.

Surveyor General's Office,
12th July, 1798.

Recommended that the report of the commissioners in favour of Mr. Hamilton be confirmed.

Samuel Street. Stating that he purchased from Lieutenant Nathaniel Hillyer in discharge of an old debt, his military lands, and was empowered by letter of attorney to make the locations, and in consequence of which made the following locations, in the name of the said N. Hillyer:

Lots 1 and 2 in the 5th concession, 2 and 3 in the 6th concession, 1 and 2 in the 7th concession, 1 and 2 in the 8th concession, township of Barton; Lots 32, 33 and 34 in the 3rd concession, 29 and 30 in the 4th concession, 31 and 32 in the 5th concession, Saltfleet. In all 1500 acres. That the said N. Hillyer is since dead, prays that the said lands be confirmed to him (except lots 31 and 32 in the 3rd concession of Saltfleet which he is willing to relinquish on being allowed to locate an equal quantity elsewhere).

The prayer of the petitioner as attorney to the deceased Nathaniel Hillyer cannot be complied with. P.R.

The petitioner to qualify himself to appear before this board in the present case should take out letters of administration as principal creditor of the deceased, and afterwards prove the debt owing to him and that it exceeds the present value of the land the deceased was entitled to. P.R.

N.B. When this petition comes on again Mulholland's petition to be brought forward at the same time.

James Mulholland. Stating that he is son and heir to the late Hugh Mulholland, who came into this province about 5 years ago and settled on lots 31 and 32 in the 5th concession of Saltfleet. That his father died in the month of December, 1796, intestate, without having received the patent for his lands. Prays that a title deed may issue in his name for the aforesaid two lots, making 200 acres. This petition to be brought before the board with Mr. Street's petition for Hillyer's lands.

William Hands. Praying the Deputy Surveyor of the Western district be directed to survey as much of his lands as fall within the limits of the late purchase of the Huron reserve, and that a patent be granted him for the same. The board cannot confirm purchases made by the King's subjects from Indians, subsequent to His Majesty's Proclamation of 1763. But in consideration of the expence of the petitioner in improving the land he lives on, the prayer of his petition is granted to the extent of his improvements, provided the lots of the town within Mr. Hand's farm have not been appropriated for which reference is to be had to the Surveyor General and provided they do not extend beyond the end of the line marked as Pajot's boundary line.

Surveyor G.O., 11th July, 1798.

Surveyor General's report on the Commissioner's report of claims, Midland district.

Sir:

In obedience to the commands which I received from your Honour in Council, the 19th of last month, I am to report to your Honour that I have made out all such descriptions, as were free from doubt, upon the commissioner's report of the Midland district. The first packet of which goes to the Attorney General's Office this day, and the remaining part as fast as they can be assorted and arranged. When reference has been had to the Deputy Surveyor, descriptions shall issue as fast as the necessary information is received, and should there be a few mistakes in the execution of this business I hope that a consideration of its nature will be admitted in pleading my excuse.

I am with respect, Sir, etc.

(Signed) David W. Smith, A.S.G.

His Honour the President.

William Fortune, in behalf of persons wishing to settle in Hawkesbury. Praying to have a number of families in the township of Hawkesbury located therein, they having brought their families into the province to reside.

Ordered that the persons whose names are annexed to this petition as having brought families into Hawkesbury for the purpose of settling on the waste lands of the Crown be located in that township to the extent of 200 acres each upon certificates being produced of their having taken the oaths of allegiance, etc., to come under the new regulations.

List of names given in by Mr. Fortune:

Peter McArthur, wife and six children.
James McLaughlin.
Nathan Cooper, wife and five children.
Cyrus Calkins, a wife and 2 children.
Daniel McArthur, a wife and 7 children.
Amer Mathews, a wife and 2 children.

Jonathan Jacobs, a wife and 1 child.
Joseph Harriman, a wife and 1 child.
Simeon Davis, a wife and 4 children.
Jonathan Burtch, a wife and 10 children.
David Bishop Worrin, a wife and 8 children.
Stephen Bond, a wife and 8 children.
Alphenes Capron.
Obadiah Winters, a wife and 8 children.
James J. Winters, a wife and 2 children.
Stephen Story, a wife and 8 children.
Otts Thomas.
Strong Burtch, a wife and 1 child.
Hezekiah Clark, a wife and 4 children.
Roger Lane, a wife and 4 children.
Jonathan St. Clair, a wife and 4 children.
Peter Reese, a wife and 1 child.
John McLaughlin, a wife and 4 children.
Amariah Church, a wife and 6 children.
Amos Mathews Parker, a wife and 4 children.
Theodore Davis.
Israel Nichols, a wife and 4 children.
Lieutenant Humphrey Morse.

Adjourned.

Alexander McDonell, Esq., of Glengarry. Assigned to him by the land board 1000 acres which was located in lots 27 and 28, 13th concession, lots 27 and 28 in the 14th concession and lot 28, 12th concession, township of Lancaster. Since finds said lots are reserved for the Crown and Clergy. Prays to have the reserves taken off for the Crown and Clergy reserves leased to him. (Lot 27 in 13th concession and lot 28 in 14th concession are for the Crown, the others are for the Clergy.)

Recommended that the lots reserved for the Crown be not reserved, and that petitioner have a lease of the Clergy reserve if he please and that he have a grant of 1200 acres inclusive. The President refers this petition to the Surveyor General for his report thereon before he can confirm the recommendation. P.R.

GENERAL INDEX

A

Abbott, Joseph, 7, 40.
Abrahams, Christian, 81, 122, 125.
Adair, John, 7.
Adams, ———, 116.
“ Andrew, 17.
“ Curtis, 17.
“ Daniel, 133.
“ Elijah C., 17.
“ Elizabeth, 17.
“ Ezra, 17.
“ Gideon, 17.
“ James, 31.
“ Richard S., 133.
“ Samuel, 7, 17.
“ Thomas, 8.
“ William S., 17.
Addison, Rev. Robert, 5, 37, 49 (2), 151, 157.
Adkins, Daniel Allen, 28.
Adolphus, Town of, 39.
Adolphustown, Town of, 53, 127 (2).
Adrams, Joseph, 5.
Agricultural Society at Newark, 49.
Ainse, Sarah (Sally), 41, 147.
Ainsley, (see also Anesley).
“ Samuel, 28.
Airhart, see Earhart.
Aitken, Alexander, 33, 103, 117 (3), 119, 120 (3), 121, 124 (2), 174.
Albertson, Elizabeth, 82.
“ William, 16, 80.
Alger (see also Olker).
“ Dan., 62.
“ Elisha, 63.
Algire, Catherine, 107.
“ Jacob, Junior, 108.
“ John, Junior, 108.
“ Mary, 108.
Allan, Cloe, 116.
“ Ebenezer, 7, 34, 116.
“ Polly, 116.
“ William, 145.
Allen, Ebenezer, 144.
“ George, 163.
“ James, 42, 102, 145.
“ John, 52.
“ Jonathan, 52.
“ Joseph, 55, 86.
“ Rachel, 52.
“ Samuel, 7.
“ Sarah, 16.
“ Theodorus, 163.
“ Ursula, 52.
Allice, Henry, 79.
Almas, Christian, 6, 154.
Amey, Mary, 82.
“ Nicholas, 121.
Amherstburg, Town of, 115.
Ammon, John Godfry, 7.
Amory, John, 160.
Anabeld, Ann, 109.
Anderson, Ann, 32.
“ Charles, 8.
“ Cyrus, 32.
“ Elisha, 111.
“ Hannah, 92.
“ James, 38.
“ James, 79.
“ Jane, 92.
“ Jean, 38.
“ John, 26.
“ John, 111.
“ Joseph, 122.
“ Mary, 110.
“ Nicholas, 25.
“ Richard, 111.
“ Walter, 50.
Andrews, Benjamin, 132.
“ Mrs. Elizabeth, 23, 165.
“ Isaac, 49.
Anesley (see also Ainsley).
“ Samuel, 130.
Anger, Charles, 8.
“ Frederick, Junior, 7.
“ Frederick, Junior, 8.
“ Frederick, Senior, 8.
Ansley, Amos, 102.
Anson, Amos, 62.
Arkland, Diedrick, 65.
Armstrong, Edward Westrop, 161.
“ James Rogers, 161.
“ Margaret McGregor, 161.
“ Mary, 160.
“ Thomas, 120.
Arnold, General Benedict, 7.
“ Ensign Edward, 7.
“ Frederick, 23.
“ Lieut. Henry, 7.
“ Oliver, 191.
“ Lieut. Richard, 7.
Arter, Peter, 185.
Ash, George, Junior, 60.
“ George, Senior, 60.
“ James, 60.
“ Joseph, 60 (2), 65.
“ Samuel, 60.
Ashbridge, John, 102.
“ Jonathan, 102.
Ashburn, Mary, 105.
Ashford, Ann, 182.
Ashford, Anna, 154 (2).
Ashley, Solomon William, 10.
“ William, 7, 70, 103, 160.
Askin, John, 43.
“ John, Junior, 42.
Asselstine, Christian, 82.
“ Isaac, 74, 122.
“ John, 81.
“ Peter, 81.
Atkinson, Mary, 80.
“ William, 117.
Attorney-General, 36, 143.
Auldjo, Alexander, 174.

Austin, Anthony, 125.
“ John, 136.
Averill, Ebenezer, Junior, 10.
“ Paul, 9, 14.
Avery, Nehemiah, 67.

B

Babcock (see also Badcock).
“ Elizabeth, 85.
“ Elizabeth, 89.
“ Huldah, 72.
“ John, 72.
“ John, Junior, 72.
“ Samuel, 89, 123.
“ William, 72.
Baby, Baptiste, 9, 43.
“ John, 9.
“ Daniel Dupron, 9.
“ Francis, 9, 43.
“ Hon. James, 9, 23, 42, 172, 180, 192.
“ Lewis, 9.
Backhouse, Samuel, 103.
Bacon, Margaret, 109.
“ Reuben, 68.
Badcock, Benjamin, 143.
“ David, 90, 142.
Badgley, Anthony, 78.
“ Laurence, 73.
“ Mary, 80.
“ Samuel, 73.
“ Stephen, 73.
Balie, John, 125.
Baker, Adam, Junior, 163.
“ Elisha, 95.
“ George, 62.
“ Henry, 168.
“ Lydia, 60.
“ Samuel, 163.
“ William, 45.
“ William, 45.
“ William, 163.
“ William, 168.
Baldwin, Abigal, 180.
“ David, 76.
“ Phinehas, 77.
Ball, Solomon, 74, 124.
Banta, Elizabeth, 48, 49.
“ Lieutenant, 48.
Banter, Abraham, 84.
“ Jacob, 83.
Baptist, John, 168.
Barber, Augustus, 5.
“ John, 140.
Barclay, Michael, 124.
Barden, Job, 133, 134.
Bardon, Joseph, 161.
Barker, David, 54.
“ Edward, 54.
“ James, 54.
Barkley, Andrew, 141.
Barley, John, 123.
Barnard (see Barnet).
Barnes (see also Barns).
“ George, 51.
“ Sarah, 51.
Barnet, Alexander, 76.
“ Electa, 76.
Barnhart, Elizabeth, 107.
“ Henry, 105.
“ Nancy, 111.
Barns, Benjamin, 174.
“ Jonas, 102.
“ Jonas, 176.
Barnum, Jabez, 67.
Baron, Bethuel, 10.
Barrister, 19, 35, 38, 149, 159 (2).
Barry (see Berry).
Bartels (see also Bartles, Bertles).
“ Andrew, 75.
Barthe, Jean Baptiste, 16, 43.
Barthol, Caphart, 168.
Bartles (see also Bartels, Bertles).
“ Justus, 90.
Bartley (see also Barclay).
“ John, 64.
“ Nelly, 151.
Barton, Colonel, 7.
“ Daniel, 155.
“ David, 155.
“ Frederick, 46.
“ John, 47.
“ Nelly, 46.
“ Sarah, 84.
“ Stephen, 146.
“ William, 47.
Bass, John, 47.
Bastedo (see Bestada).
Bates, William, 146.
Bay of Quinte, 3, 53, 55, 127, 171, 176, 188.
Bay des Chaleurs, 96.
Bayman, James, 34.
Bayne, John, 9, 34.
Baxter, Ravina, 76.
“ Richard, 69.
Beach, Amos, 63.
Beachum, William, 142.
Beacon, Jeremiah, 142, 174.
Beal, Josiah, 142.
Beam, Jacob, 51.
“ Martin, 41.
Beamer (see also Beemer).
“ ———, 15.
“ Philip, 155.
Beardsley, B. Crannell, 19, 128, 172.
Beasley, Richard, 168, 189.
“ Thomas, 148.
Beaty, Jeremiah, 142.
Beaubien, Joseph, 143.
Bebee, Edin, 51.
Bedal, William, 74.
Bedford, Jonathan, 103.
“ Paul, 147.
Beech, John, 54.
“ Lovell, 133.
Beedell, Reuben, 53.
Beemer (see also Beamer).
“ Henry, 28.
Beikie, Penelope, 111.
Belant (see also Bellant).
“ Toussant, 79.
Belcher, John, 64.
Bell, A., 71.
“ Ann, 89, 93.
“ Anne, 20.
“ Benjamin, 50.
“ Elizabeth, 9.
“ Jonathan, 50.
“ Thomas, 29.
“ William, 20.
Bellamy, Zerod, 62.
Bellant (see also Belant).
“ Elizabeth, 79.

Beman, Elisha, 72, 73.
Benac, Porlier, 43.
Bender, John, 10.
“ Philip, 15.
“ Tunas, 106.
Beneker, William, 78.
Benjamin, Asa, 132.
Benn, Isaac, 57.
Bennet, James, 8, 86.
“ Joshua, 39.
“ Mathew, 158.
“ William, 39.
Benson, Cornelius, 60, 135.
“ Elizabeth, 159.
“ John, 95, 135.
“ Richard, 95.
Berczy, Charlotte, 18.
“ William, 18, 42, 126.
Berger, William, 176.
Berry, Thomas, 103.
Bertles (see also Bartels, Bartles).
“ Justles, 75.
Bessey, John, 9.
“ Robert, 9.
Bessie, Robert, 8.
Bestada, David, 171.
Bethune, Anne, 113.
Bettis (see Beaty).
“ James, 64.
Bigger, John, 24.
Bird, Elizabeth, 54.
“ Henry, 79.
Bishop of Quebec, 150.
Bishop, Olive, 180.
Bissell, David, Senior, 45, 179.
“ Friend, 30.
“ Joseph, 30.
“ Patty, 68.
“ Sarah, 179.
Black, Jonathan, 102, 179.
Blackburn, John, 23.
Blacker (see also Bleeker).
“ John, 50.
“ Mary, 71.
Blackley, James, 53.
Blackly, James, Senior, 56.
Blacksmith, 138.
Blake, Martin, 105.
Blauvett, Isaac, 73.
Bleeker (see also Blacker).
“ Mary, 58.
Blood, Francis, 117.
Blount, Cornelius, 55.
Bogar, Laban, 10.
Boice (see also Buis).
“ Mary, 90.
“ Stephen, 87.
Bollard, Nicholas, 69.
Bond, Stephen, 194.
Bonter (see also Banter).
“ Abraham, 188.
“ Catherine, 188.
Boom, John, 10.
“ Nicholas, 10.
Booth, Eleanor, 95.
“ Joshua, 75, 119, 138, 191.
“ Thirza, 165.
Borelli, Joseph, 42.
Borman, Sigismund, 118.
Bostwick, Joshua, 31.
“ Lauson, 64.
Bottum, Elijah, 95.
Bouck, Frederick, 176.
Bough, George, 103.
Bouker, Elizabeth, 72.
Boukett, William, 65.
Boulton, Mary, 161.
Bowen, Abraham, 25.
“ Catherine, 154.
“ Henry, 22.
“ John, 24.
“ Peter, 26.
“ Victore, 24.
“ William, 19, 142.
Bower, Casper, 92.
Bowerman, Gideon, 62.
“ Ichabod, 54.
“ Stephen, 62.
Bowkett (see Boukett).
Bowman, Abraham, 8.
“ Jacob, 8.
“ Jonathan, 54.
Brack, Samuel, 54.
Brackenridge, Mr., 165.
Bradley, Nathan, 63.
Bradshaw, Asahel, 25, 26, 81.
“ David, 26, 32, 82, 120, 121.
“ James, Junior, 26, 81.
“ James, Senior, 26.
“ Mary, 25.
Bradt, Aaron, 49.
Brady, Col., 165.
“ Edward, 9.
“ John, 165.
Brakenridge, Capt., 66.
Brandt, Mary, 40.
Brandts, Henry, 19.
Brandyman, Christopher, 8.
Brant, Isaac, 103, 182.
“ Capt. Joseph, 103, 168, 182, 184.
Brass, Lieut. David, 81.
“ Mary M., 83.
Bready, Mathew, 109.
Breakenridge (see also Brackenridge, Brakenridge).
“ James, 94.
Brentnall, Asa, 63.
Breton, Ebenezer, 27.
Brewer, Aaron, 96.
“ Elazarus, 79, 91.
“ John, 96.
“ Margaret, 96.
Brien, Edward, 27.
Bright, Lewis, 176.
Brink, Nicholas, 51.
Brisco, Nabe, 89.
Briscoe, Nathan, 119.
Bristol, Elisha, 64.
Brock, Mary, 53.
Broeffel (see Prefle).
Broken Fronts, 154, 185.
Brooker, James, 91.
Brooking, Capt. Henry, 151.
Brooks, George, 19, 118.
“ John, 10.
Broome, Samuel P., 128, 129.
Brown, Abraham, 176.
“ Adam, 98.
“ Allen, 62.
“ Anne, 165.
“ Cyrenius, 136.
“ John, 8.
“ John, 62.
“ John, 93, 176.

Brown, Jonah, 66.
“ Joseph, 168.
“ Leonard, 103.
“ Mary, 133.
“ Nathan, 68.
“ Nathaniel, 68, 76.
“ Neil, 10.
“ William, 37.
“ William, 37.
Brownell, Elizabeth, 109.
Bruce, Mary, 106.
“ Margaret, 112.
“ Sarah, 112.
Brumigem, Francis, 101.
“ Mary, 101.
Brundige, Hannah, 47.
Bruner, Peter, 141, 143.
Brunson, Amasa, 61.
“ Barnabas, 61.
“ William, 63.
Bryant, John, 9.
“ John, 85.
“ Patrick, 9.
Buch, Barzillai, 10.
Buchannan, Robert, 93.
Buchner, Christopher, 10.
“ Daniel, 10 (2).
“ Henry, Senior, 8.
“ Peter, 10.
Buck, Daniel A., 180.
“ George, 85.
“ George, Junior, 86, 122, 124.
“ Mehitable, 180.
“ Samuel, 180.
“ Samuel M., 180.
“ Sarah, 133.
“ Stephen W., 180.
Buel, Bemslee, 77.
“ Jonathan, 77.
“ Lois, 77.
Buell, Samuel, 68, 70.
“ Timothy, 70.
Buis (Boice), Stephen, 87.
Bull, Aaron, 176.
“ Bryer, 79.
“ Hezekiah, 69.
Burdick, Samuel, 28.
Burgar, George, 40.
“ Joseph, 40.
“ Peter, 40.
“ Peter N., 40.
“ Thomas, 40.
Burgart, Peter, 83.
Burgess, Dennis, 133.
Burget, Moses, 60.
Burgot, Moses, 65.
Burgoyne, General, 3, 7.
Burk, James, 5.
Burke, Luke, 54.
Burley, Emerson, 75.
“ John, 125.
Burlinger, Philip, 9.
Burlington Bay, 8, 151.
Burn, John, 143.
Burnet, Elizabeth, 81.
“ John, 85.
Burnham, Asa, 62.
Burns, Alexander, 146.
“ David, 182.
“ Joel, 153.
“ Zoel, 62.
Burritt, Daniel, 47.
Burritt, Major, 46.
Burtch, Charles, 14.
“ Jonathan, 194.
“ Nathan, 190.
“ Strong, 194.
Burton, Thomas, 102.
Bush, Frederick, 103.
“ Henry, 29, 96.
“ Margaret, 15.
Butcher, Thomas, 142.
Butler, Col., 7.
“ Eve, 150.
“ James, 67.
“ Lieut. Thomas, 9 (2).
“ Truelove, 76.
Button, John, 155.
Butts, Oliver, 155.
Byard, Martin, 93.
Byrne, Philip, 166.

C

Cadman, Asa, 21.
“ Deborah, 20.
“ Elizabeth, 20.
“ Joshua, 21.
“ Sylvia, 20.
Cain (see also Kaine).
“ Francis, 84.
“ George, 20.
“ Josiah, 20.
Caine, Peter, 185.
Calder, William, 113.
Caldwell, James, 179.
“ John, 74.
“ Capt., William, 22, 23, 43, 143, 144, 179.
“ William, Junior, 179.
Calender, Catherine, 144.
Calkins, Cyrus, 193.
Callender, Asa, 60.
Caller, Elizabeth, 56.
Cameron, Alexander, 163.
“ Allan, 141, 163.
“ Donald, 163.
“ Grace, 107.
“ Hugh, 145.
“ J., 105.
“ John, 24, 130.
“ John, 160.
“ Margaret, 112.
“ Margaret, 163.
“ Mary, 65
“ Mary, 163.
“ Mary, 163.
“ Mary, 181.
“ Murdo, 65.
“ Tryphena, 3.
“ William, 3.
Campbell, Lieut. Alexander, 31.
“ Alexander, 77, 127.
“ Allan, 175.
“ Archibald, 16, 127.
“ Catherine, 181.
“ Donald, 139.
“ Elizabeth, 16.
“ Corp. Hugh, 81, 117.
“ James, 37.
“ John, 64.
“ John Low, 161.
“ Mrs., 31.
“ Oliver, 58, 64.
“ Sarah, 16.

Campbell, Stephen, 64.
" William, 64.
Caniff, John, 147.
Canniff, James, 35.
Cannon, John, 29, 84.
Capron, Alphenes, 194.
Carey (see also Carrey, Carry).
" Arthur, 62.
" Bernard, 5.
Carle, Thomas, 41.
Carleton, Dean, 165.
" Sir Guy, 90.
Carley, Abraham, 79.
" Bartholomew, 76.
" Hannah, 101.
" James, 133.
Carly, Thomas, 8.
Carnihan, Moses, 161.
Carpenter, Alexander, 10.
" John, 6.
" Mary, 106.
" Peter, 105.
Carr, John, 79.
Carrey, Francis, 179.
Carry, Bernard, 136.
Carrying Place, 3, 52, 53, 55, 79, 82, 142, 165, 171, 188.
Carscallen, Ann, 89, 93.
" George, 89, 93.
" James, 89, 92.
" John, 32, 93.
" Luke, 93.
" Nabe, 89.
Carson, William, 78.
Carter, John, 31, 62.
" John, Junior, 62.
" Thaddeus, 45, 132.
" William, 62.
Cartwright, Hon. Richard, 117, 120 (2), 122 (3), 130, 165.
Carty, Thomas, 142.
Carver, Ebenezer, 5.
Case, Aaron, 158.
Casewell, William, 134.
Casey, Willet, 36, 39, 57.
Cass, Elishu, 136.
" Joseph P., 135.
" Josiah, 80, 135, 176, 188.
" Josiah, *et al*, 186.
" Mary, 80.
Cassadey, Henry, 85.
Cassady, Daniel, 27.
Cassleman, Cephrenus, 15.
" Conrod, 15.
" Martin, 15.
Cating, Margaret, 34.
Chaboillez, Margaret, 48.
Chamberlain, Elias, 133.
" Jacob B., 22.
Chambers, William, 138.
Chaplin, Daniel, 60.
" Joseph, 59, 65.
" Joseph, Junior, 60.
Chapman, Ami, 133.
" Mathew, 178.
Charles Town, 8.
Charters, George, 92.
Chatterson, Cornelius, 74.
" Elias, 75.
Chatterton, John, 76.
Chester, John, 179.
" Phebe, 179.
Chewett, William, 143, 145.
" Isabella, 152.
Chief Justice, 50.
Chisholm, Alexander, 71 (2), 115, 120, 149.
" Anne, 111.
" Archibald, 73.
" Christian, 113.
" George, 151, 157.
" Mary, 113.
Christie, Abijah, 105.
" Elizabeth, 112.
" Peter, 82.
Chrysdale (see Creasdel).
Chrysler, John, 48.
Church, Amariah, 194.
" Catherine, 101.
" Jonathan M., 30.
" Oliver, 93, 120.
Churchill, Ezra, 134.
Clabboard, Ernest, 79.
Clapp, Benjamin, 53.
Claremont, New Hampshire, 44.
Clark, A., 179.
" Abraham, 66.
" Alexander, 92.
" Benjamin, 177.
" Daniel, 191.
" George, 4.
" Hezekiah, 194.
" Hugh, 22.
" James, 54.
" James, 148.
" James, Junior, 170, 174.
" James, Senior, 4 (2).
" John, 4.
" Margaret, 107.
" Margaret, 181.
" Mary, 4.
" Mary, 113.
" Ralph, 191.
" Robert, 87.
" Roeloff, 84.
" Sarah, 4.
" William, 4.
" William, 63.
Clarke, Alexander, 124.
" Robert, 142.
" Thomas, 39.
" Thomas Alexander, 140.
Claus, Mrs. Ann, 149.
" Lieut.-Col., 149.
" Thomas, 105.
" Capt. William, 149, 150, 156, 160.
Clayton, Jacob, 84, 135.
Clearwater, John, 138.
Cleavland, Gardner, 61.
" Resolved, 59, 61.
Clement, Catherine, 38.
" Hannah, 87.
" John William, 76.
Clench (see Clinch).
Clendennen, John, Senior, 98.
" Rebecca, 24.
Clendenning, Abraham, 58.
" Adam, 45.
" James, 58.
" John, 58.
" Walter, 58.
Clergy:
  Addison, Robert, 5, 37, 49 (2), 151, 157.
  McDonell, Roderick, 166.
  Pollard, Richard, 137.

Clergy—*Continued*
Broeffel, Rev. Mr., 28.
Raddish, Thomas, 34, 49.
Sheverdfeger, Samuel, 143.
Stuart, George Okill, 96.
Stuart, John, 59 (5), 159.
Clergy Reserve, 44, 50, 97, 150, 164, 165, 189.
Clerk of the Executive Council, 98, 115.
Clerk of the Legislative Council, 170.
Clerk of the Peace, 115, 187.
Clifford, Calvin, 134.
Clinch, Ralph, 37, 50, 157, 168.
Cline, Ann, 110.
“ Elizabeth, 110.
Clinton, Sir Henry, 90.
Clow, Henry, 68.
“ Sophia, 69.
“ William, 68.
Clute, Gradus, 74.
“ Sarah, 76.
Clymenhager, Henry, 26.
Cock, Hanah, 141.
Cockle, ———, 5.
Coffee, Samuel, 168.
Coffin, James, 36, 65, 155.
Cogden, John, 10.
Colby, ———, 97.
Cole, Barnet, 56.
“ Conrod, 183.
“ Daniel, 35.
“ Huldah, 72.
“ Isaac, 183.
“ Isabel, 53.
“ Jesse, 86.
“ John, 112.
“ Thankful, 47.
Colerick (see Colorake).
Collins, Alexander, 38.
“ John, 7, 117 (2), 118 (2), 120, 130, 141, 160.
“ John, 97.
“ John, 98.
“ Steven, 47.
Colorake, Peter, 185.
Colver (see also Culver).
“ Aaron, 10, 15.
“ Benjamin, 10.
“ Ebenezer, 13.
“ Gabriel, 10.
“ Jabez, 10, 13, 15.
“ Jabez, Junior, 10.
“ John, 10, 15.
“ Nesbitt, 10.
“ Timothy, 10.
“ Timothy, Junior, 10.
Comar, Thomas, 74.
Commissioners' reports, 104.
Conat, Barnabas, 135.
Concklin, James, 30.
Conn, John, 178.
Connor, Eliza, 191.
“ James, 96.
“ William, 41.
Conolly, Solomon, 132.
Cook, Christiana, 50.
“ Elizabeth, 67.
“ Hannah, 67.
“ Michael, 67.
“ Nicholas, 139.
“ William, 73.
Cooley, Charles, 11.
“ Gideon, Senior, 13.
Coon, John, 157, 184.
Cooper, ———, 45.
“ Nathan, 193.
“ Peres, 63.
“ Robert, 103.
“ Thomas, 4.
Corbin, Daniel, 134.
“ Margaret, 67.
Corbman, Jacob, 58.
Cornelious, John, 89.
Cornwall, Town of, 111, 115.
Cornwall, John, 17.
“ Mrs., 17.
“ Richard, 17.
“ William, 141.
Corry, Peter, 142.
Coteaux du Lac, 69.
Cotter, David, 20.
“ James, Junior, 20.
“ Magdalen, 21.
“ Richard, 20.
Cottier, William, 90.
Coughnutt, Jean, 92.
“ William, 92.
Counties:
Essex, 139.
Glengarry, 194.
Kent, 139.
Lincoln, 168, 192.
Norfolk, 148.
Prince Edward, 64, 127.
Stormont, 166, 171.
York, 19.
Countryman, Conrod, 107.
Court of Appeal, 116.
Coutier, Stephen, 112.
Covell, James, 139.
“ Susannah, 135, 142.
Cover, Nicholas, 116.
Covill, David, Senior, 47.
Cowan, George, 160.
Cox, John, 101.
“ Samuel, 185.
Coxe, ———, 136.
Coyl, Felter, 45.
Cozens, Benjamin, 6.
“ Daniel, 6.
“ Capt. Daniel, 3.
“ Jacob, 127.
“ Joshua, 6 (2).
“ Samuel, 6.
“ Shivers, 84, 102, 139.
Crampton, John, 34.
Crandell, Palmer, 63.
“ Reuben, 63.
Crank, Mathew, 36.
Crawford, Captain, 65.
“ Catherine, 65.
“ John, 82.
“ Mary, 65.
“ Redford, 86.
Creasdel, John, 51.
Creley, Cornelius, 151.
Creuzburg, Col., 7.
Crippen, Abigail, 77.
“ Darius, 133.
“ David, 142.
Crisler, Peter, 23.
Cronck, Jacob, 54.
Cronkite, Abraham, 94.
“ Jean, 78.
“ William, 78.

Cronkright, Hercules, 191.
“ John, 191.
Crookshank, George, 97.
Cross, Catherine, 113.
Crouter, Peter, 73.
Crow, James, 68.
“ John, 148.
“ Thomas, 39.
Crowder, Anne, 106.
“ Isaac, 109.
“ Margaret, 112.
“ Samuel, 174.
“ William, 109.
Crown Reserve, 150, 194.
Crumb, Benjamin, 15, 38.
Cryderman, Catherine, 104.
“ Catherine, 107.
“ Mary, 183.
“ Michael, 54.
Crytes, Margaret, 111.
Culbert, James, 24.
Culbertson, Samuel, 140.
Culp, Christopher, 32.
Culver (see also Colver).
“ Daniel, 161.
“ Jabez, 174.
Cumings, John, 106.
Cummer (see Gomer).
Cumming, John, 44, 70, 122.
“ John, 16.
“ Sarah, 16.
Cunes, Jacob, 119.
Cunningham, George, 155, 171.
Currie, James, 19.
Curry, Elizabeth, 114.
Curtis, Allen, 66.
“ Isabel, 93.
“ James, 67.
Cuyler, Lieut.-Col., 161.

D

Dafoe (see also Defoe).
“ Elizabeth, 56.
“ Louis, 20.
“ Louis, 21.
Daily, Cornelius, 172.
Daly (see Dayley).
Dame, John F., 155.
Danby, Christopher, 6.
Danforth, Asa, 57, 59, 61, 62, 63, 64, 153, 155, 171.
“ Eli, 11, 45.
“ Samuel, 61.
Daniel, John, 27.
Darley, John, 120.
Darling, John, 62.
Darlington, Peter, 167.
Darly, John, 117.
David, John, 47.
Davidson, Dr. James, 27, 59.
Davis, Asahel, 31.
“ Comfort, 163.
“ Elizabeth, 48, 49.
“ Elizabeth, 151.
“ Isaac, 48 (2).
“ Mary, 56.
“ Robert, 11.
“ Simeon, 194.
“ Theodore, 194.
“ Thomas, 11.
“ William, 31, 33.
“ William, 77.
Davis, William, 152.
Davy, Christian, 82.
“ Elizabeth, 191.
“ Henry, 90.
“ Mary, 82.
“ Michael, 74.
“ Thomas, 82.
Dawson, James, 90.
“ Susanna, 56.
Day, Barnabas, 119, 121.
“ Barnabas, Junior, 84.
“ Daniel, 133.
“ Dudley, 67.
“ Jeremiah, 132.
“ Joseph, 133.
“ Joseph, Junior, 133.
“ Lewis, 87.
“ Richard, 133.
“ William, 133.
“ William, Junior, 133.
Dayley, Peter, 88.
Dayton, Nathan, 67.
Dean, Erastus, 63, 153, 162.
“ Gaius, Junior, 153.
“ Gaius, Senior, 63, 153, 162.
“ Josiah F., 163.
Deane, Josiah, 159.
De Chabert, Joncaire, 143.
Decker, Mary, 26.
“ Thomas, 26.
Dederick, Michael, 16, 119.
Deeds, 115.
Deen, Benjamin, 60.
“ Noah, 60.
Defoe (see also Dafoe).
“ ———, 92.
“ Abraham, 89, 92.
“ Condrat, 165.
“ Daniel, 92.
“ John, 92.
“ Mary, 94.
“ Michael, 92.
Deforest, Simon, 55.
Dehart, Daniel, 27.
D'Hoen, Frederick Baron, 44, 177.
Dejardin, Antoine, 135.
Delancy, Stephen, 156.
Delaware, Church at, 144.
“ Inhabitants of, 144 (2).
“ Village of, 7.
Demill, Isaac, 53.
De Mille, Anthony, 82.
Demont (see Dimont).
Demoree, David, 56.
Demorest, James, 21.
Dempsey, Thomas, 73.
Denike (see also Denyke).
“ Andrew, 16 (2).
Dennis, Elizabeth, 135.
“ Jane, 57.
“ John, 126, 131, 135.
“ Martha, 135.
Dennison, John, 155.
Denyke (see also Denike).
“ Andrew, 90, 92.
Deputy Surveyor, 108, 111.
Detlor, Anna, 20.
“ Anne, 20.
“ Elizabeth, 20.
“ Jacob, 25.
“ Peter, 25.
“ Samuel, 124.

Detroit, 137, 138, 143, 147, 152.
Deukee, Nathan, 75.
“ Phebe, 75.
Devine, John, 61, 159.
Devoe, Eve, 110.
Dewitts, Dorothy, 107.
Dexter, John, 178.
Dickout, Henry, 24.
Dickson, Mrs., 40.
“ Robert, 27.
“ Thomas, 168.
“ William, 10 (5), 11 (8), 12 (4), 50, 103.
Dimmond, Jacob, 123 (2).
Dimond, Catherine, 89.
“ Christina, 93.
“ Jacob, 21.
“ John, 19.
“ Margaret, 93.
Dimont, Capt. William, 145.
Dingman, Garret, 56.
“ Jacob, 94 (2).
“ Richard, 111.
Dingwall, Katherine, 112.
Dixon, Francis, 74.
“ John, 107.
Docksteder, Henry, 30.
Dodge, John, 132.
Doggett, John, 154.
Doke, Elizabeth, 46.
“ William, 46.
Dollier (see Dulyea).
Dolson, Isaac, Senior, 40.
“ Mathew, 43, 136.
“ William, 144.
Donahoe, John, 34.
Donovan, Florence, 19, 22, 119.
“ John, 167.
“ Mary, 111.
Doole, John, 78.
Doolittle, Moses, 62, 95.
Dorin, John, Junior, 66.
Dorland, Alley, 22.
“ Gilbert, 54.
“ Philip, 54.
“ Thomas, 53.
Dorn, Jacob, 176.
Dougall (see also Dugall).
“ Ann, 24.
“ Caty, 24.
Dougherty, Anthony, 11.
Dousler, Mary, 105.
Dowling, John, 64.
Doyle, Benjamin, 11.
“ Dennis, 47.
“ Sarah, 177.
Drader, Martin, 56.
Drake, John, 39.
Drewry, Lewis, 39.
Drouillard, Francis, 140.
“ Solomon, 140.
Drummond, Peter, 44.
Ducoln, Claudius, 132.
Dudley, Gideon, 11.
Duff, Alexander, 42.
Dufresne, Antoine, 43.
“ Jean Baptiste, 58.
Dugall, Eleanor, 183.
“ James, 183.
“ William, 26.
Duiet, Thomas (Nicholas), 39.
Dukey, John, 61.
Duke of Cumberland, 6.
Duke of Portland, 1.
Dulmage, Ann, 66.
“ David, 56.
“ Elias, 66.
“ Jacob, 83.
“ Philip, 66.
Dulyea, Margaret, 25.
“ Mary, 86.
Dunafan, Florence, 22.
Dunbar, Alexander, 80.
Duncan, Richard, *et al*, 44.
“ Hon. Richard, 168, 172, 177.
Dunham, Ann, 17.
“ Daniel, 69.
“ Jonathan, 17.
“ John, 158.
Duniess, Martin, 94.
Dunn, Catherine, 114.
“ James, 132.
“ John, 61.
Dunyas (see also Duniess).
“ Martin, 183.
Dusler (see Dousler).
Dyer, Capt. Barret, 55.
Dyre, Silas, 53.
Dysert, Surfernus, 64.

E

Eaman (see also Eman).
“ Margaret, 108.
Earheart, Unice, 89.
Earl, Hugh, 84, 159.
Eastman, Coperan, 173.
“ Justin, 173.
Eaton, Daniel, 39.
“ Jabez, 132.
“ John, 39, 160.
Eddy, Barnabas, 65.
“ Bays M., 63.
Edgar, John, 87, 117.
“ Sarah, 90.
Edmonds, David, 134.
“ Joseph, 133.
Edwards, James, 56.
Ellarbeck, Lieutenant, 119.
Ellerbeck, Samuel, 91.
Elliot, John, 174.
Elliott, James, 71.
“ Capt. Matthew, 43, 144.
Ellis, John, 168.
Elmsley, Hon. John, 44, 97.
“ Mrs., 24.
Elsworth, Caleb, 55, 123.
“ Neil, 138.
“ Philip, 55.
Eman, John, 111.
Embury, Andrew, 25, 124.
“ David, 22.
“ John, 21, 24.
“ Mary, 20.
Emerson, John, 143.
Emery, Barnard, 66.
“ John, 140.
“ Mary, 165.
“ Thomas, 107.
Emmett, Stephen, 15.
Empy (Empey), Ann, 105.
“ Catherine, 111.
“ Christian, 106.
“ Elizabeth, 106.

Empy (Empey), Elizabeth, 108.
“ Eve, 105.
“ John, 106.
“ Richard, 107.
“ William, Junior, 107.
Endicott, John, 71, 97.
Engel, George, 51.
Esmond, Enoch, 55.
Euly, Charles, 112.
Everitt, Capt. John, 79, 117.
“ Lieut., 37.
Eversie, Jacob, 169.
“ John, 165, 187.
Everson, John, 138.
Everton, Thomas, 95.
Everts, Boswell (Roswell), 179.
“ Oliver, 179.

F

Fadelle, John, 38.
Fairchild (see also Farechild).
“ Benjamin, 6.
“ Benjamin, 14.
“ Daniel, 173.
“ Eleazar, 31.
“ Henry, 173.
“ Isaac, 14.
“ Joseph, 15.
“ Peter, 14.
Fairfax, Christian, 120.
Fairfield, Benjamin, 88.
“ Jonathan, 76.
“ Sebray, 95.
“ Stephen, 88.
“ William, Junior, 88.
“ William, Senior, 76, 125.
Fairman, John, Junior, 20.
“ Nancy, 21.
“ Robert, 21.
Falconer, James, 102, 171.
“ Joseph, 173.
“ Thomas, 75.
Falkner, Mary, 114.
“ William, 146.
Fanning, Col., 8.
Fare, Daniel, 83.
Farechild (see also Fairchild).
“ Eleazer, 80.
Farewell (see Farwell).
Farlinger, Nicholas, 106.
Farnum, Archelaus, 134.
“ John, 134.
Farr, John, 40.
“ Richard, 40.
“ William, 40.
Farrand, Jacob, 115, 167, 187.
Farrington, Joseph, 62.
“ Samuel, 53.
“ Stephen, 54.
Farris, Joseph, 140.
“ Thomas, 140.
Farwell, William Faulton, 182.
Fennel, James, 109.
Ferguson, ———, 153.
“ Alexander, 25, 134.
“ Arra, 20 (2).
“ George, 167.
“ Jean, 113.
“ John, 28 (2), 39, 40.
“ John, 167.
Ferguson, Jonathan, 28, 161.
“ Magdalene, 28.
“ Mary, 53.
“ Melison, 119.
“ Peter, 158.
“ Peter, 167.
“ Richard, 161.
“ Roswell, 62.
“ Rozel, 55.
“ Sussanah, 110.
“ Wilkinson, 28.
Fero, Margaret, 143.
Ferris, Daniel, 78.
“ David, 60.
“ John, 80.
“ William, 60.
Feterlay, John, 167.
Fetterly, Mary, 105.
Fidler, Eleanor, 46.
Fields, Daniel, 40.
Fike, Francis, 147, 148 (2).
Filer (see Fyler).
Finch, Henry, 132.
“ James, 67.
“ Richard, 132.
Finkle, Henry, 90.
“ Jacob, 21.
“ John, 21.
Finney, George, 113.
Fish, Mary, 134.
“ Samuel, 134.
Fishback, Henry, 148.
Fisher, ———, 98.
“ Alexander, 91, 122.
“ Frederick, 29, 136.
“ Henry, 176.
“ Jacob, 178.
“ John, 178.
Fitch, Titus, 86.
Fitchett, Elizabeth, 20.
Fitzgerald, John, 51.
Fitzpatrick, Peter, 107.
Flack, Richard, 40.
Fleming, David, 79.
Fleming, John, 44, 79.
“ Thomas, 146, 176.
Folluck, Cornelius, 50.
Forbes, Ann, 114.
Fornier, Louison, 135.
Fornyea, Christopher, 29.
Forrest, Henry, 67.
Forsyth, George, 10, 12 (4), 13 (2), 123.
“ James, 106.
“ John, 107.
“ Joseph, 121, 123 (3).
“ William, Junior, 11.
Forsyuer, Sarah, 92.
Fort Erie, 187.
Fort St. Philip, 9.
Fortier, Lieut. P. M., 80.
Fortune, Joseph, 105.
“ William, 183, 185, 193.
Foster, John, 118 (2).
“ Martin, 73.
Fournier, Andrew, 112.
Fowler, Nathan I., 34.
Fox, William, 55.
Fralick (see also Freilick, Frolic).
“ Jacob, 94.
“ Zacarias, 94.
Francis, John, 168.
Franklin, Mathew, 173.

Franks, William, 187.
Fraser, Captain, 176.
“ Daniel, 92.
“ David, 16.
“ Donald, 110.
“ General, 3.
“ Grace, 177.
“ Grace, 177.
“ Jane, 118.
“ Jeremiah, 134, 166.
“ John, 121.
“ Margaret, 118.
“ Mary Ann, 118.
“ Rebecca, 74.
“ Capt. Thomas, 19, 44 (2), 172.
“ Thomas, 176.
“ Adjt. William, 27, 94.
“ Capt. William, 15, 44, 164.
“ William, 69.
“ William, 177.
Frederick, Conrad, 29, 73.
“ John, 141.
“ Lewis, 176.
“ Martin, 73.
“ Peter, 22.
Fredericks, Elizabeth, 135.
Freel (see also Friel).
“ Peter, 166.
“ Thomas, 166.
Freeman, Asa, 173.
“ Richard, 23, 82.
“ Thomas, 76.
Freilick (see also Fralick, Frolic).
“ Christopher, 88.
“ John, 88.
“ Peter, 89.
Frelick, Hannah, 87.
“ Hannah, 92.
“ Martin, 88.
French, Henry, 76.
“ Jeremiah, 110.
“ John, 135.
Fresby, Esther, 178.
Frey, Philip, *et al*, 9.
Freymouth (see also Friermouth).
“ John A., 90.
Friel (see also Freel).
“ Peter, 55.
Friermouth (see also Freymouth).
“ John Adam, 78.
Frint, Henry, 63.
“ John, 63.
“ Martin, 63.
Frolic, Martin, 122.
Frost, Thomas, 140.
Frymire, Nicholas, 177.
“ Philip, 107.
“ Philip, 143.
Fulmore, John, 140.
Furlow, Cornelius, 158.
“ Jacob, 158.
Fyler, Oris, 36.

G

Gaffield (see Gosfield).
Gage, James, 31.
Gahan, Edward, 70.
Gainsfort, Lieutenant, 152.
Gallenger, Catherine, 105.
Gallinger, Christian, 111.
Gallinger, Margaret, 108.
Galloway, Alexander, 71.
Gamble, John, 183.
“ Richard, 183, 189.
“ William, 97.
Gananoque Lake, 65, 131.
Gaoler at Newark, 149.
Gardner, Samuel, 168.
Garlock, Elizabeth, 176.
“ Peter, 176.
Garner, George, 11.
Garrett, Isaac, 54.
Garrison, Mary, 162.
Garritt, Simeon, 71.
Gastin, Thomas, 61.
Gates, Abel, 85.
Gautier, Charles, 37.
Gellairt, Peter, 69.
Gelly, Joseph, 69.
German, Elizabeth, 82.
“ Jacob, 80.
“ John, 83.
“ Lewis, 80.
“ Mary, 72.
“ Mary, 83.
Germaine, Catherine, 21.
Gerolamay, Elizabeth, 56.
Ghent, John, 32.
“ Thomas, 31.
Gibb, Catherine, 167.
Gibbs, Cornelius, 136.
“ Ebenezer, 136.
“ Nathan, 136.
“ Nathan, Junior, 136.
“ Thomas, 136.
Gibson, William, 32.
Gifford, Humphrey, 60.
“ Samuel, 60.
Gilbert, Anna, 71.
“ Caleb, 50, 52.
“ James, 122.
“ Josiah, 11.
“ Nancy, 162.
“ Stephen, 72.
Gilchrist, Peter, 45.
Gillam, Thomas, 152.
Gillespie, William, 171.
Gilmar, William, 97.
Gilmore, John, 132.
Gisso, Charles William, 145.
Givens, Angelique, 146.
“ Lieut. James, 4, 146, 165.
Glasford, Mindwell, 114.
“ Paul, 176.
Glebe, 57.
Glover, Jacob, 4.
Gode, Hannah, 85.
Goheen, Thomas, 59.
Goldsmith, Joshua, 72.
Gomer, Jacob, 177.
Goodyear, Edward, 95.
Goodwin, Charles, 161.
Goose, John, 140.
Gordon, ———, 152.
“ John, 38.
“ Joseph, 97.
Gordonier, Henry, 88.
“ Jacob, 88.
Gosfield, Nathaniel, 63
Gouin, Robert, 138.
Graham, John, 27.
“ Oliver, 66.

Graham, Robert, 80.
“ Robert, Junior, 80.
“ Capt. William, 6.
“ William, 138.
Grant, Hon. Alexander, 23, 42, 172, 192.
“ Alexander, 114.
“ Allan, 179.
“ Ann, 179.
“ Archibald, 181.
“ Catherine, 65.
“ Christian, 113.
“ Duncan, 24.
“ Duncan, 111.
“ James, 55, 178.
“ John, 24.
“ John, 113, 166.
“ John, 120.
“ Louis, 111.
“ Margaret, 181.
“ Margery, 113.
“ Mary, 107.
“ William, 105.
“ William, 167.
Grass, Daniel, 88.
“ Eve, 82.
“ John, 29, 87.
“ Mary, 87.
“ Capt. Michael, 88, 118, 119.
“ Peter, 88.
Graver, John, 44.
Gray, Ann, 90.
“ Calso, 167.
“ Mrs. Elizabeth, 104, 158.
“ Col. James, 104, 187.
“ John, 34.
“ Robert I. D., 24, 34, 104, 115.
“ Lieut. Thomas, 116.
“ Thomas, 154.
“ Capt. William, 169.
Greeley, Aaron, 59, 61 (2), 62, 63, 64, 95, 155, 171, 187.
Green, ———, 152.
“ Ann, 17.
“ Benjamin, 14.
“ James, 17.
“ John, Junior, 162.
“ Mary, 113.
Green Point, 16.
Gregory, Moses, 11.
Griffin, Joseph, 77 (2).
“ William, 60.
Griffith, John, 96.
Griswold, John, 163.
Grooms, Elijah, 86.
Grout, Ferdinand, 62.
Groves, Abby, 106.
Gruer, John, 121 (4).
Gruler, Paul, 58.
Guilder, Charles, 23.
Guinup, Brittain, 85.
Guknor, Stephen, 61.

H

Haderim, Conrod, 30.
Hagerman, Benjamin, 34.
“ Christopher, 36.
“ Mrs., 35.
“ Nicholas, 35, 91.
Hagart, Margaret, 113.
Haggart, James, 112.
Haggerman, Abraham, 60.
“ Isaac, 60.
Haight, Daniel, 53.
“ Joel, 54.
Haldimand, General, 117, 118 (6), 119 (7).
Hall, Daniel, 173.
“ Isaiah, 59, 64.
“ John, 51.
“ Noah, 24.
“ R., 117.
Hallowell, Benjamin, 24.
Halsted, Laurence, 73.
“ Stephen, 73.
Hamblin (see Hamlin, Hamlon).
Hambly, William, 30.
Hamilton, Andrew, 39.
“ Lieut.-Gov., 4, 90, 117, 118 (2), 121.
“ Joseph, 171.
“ Hon. Robert, 10 (2), 40, 168 (10), 171, 172, 192.
Hamlin, David, 178.
Hamlon, Silas, 47.
Hands, Cyrus, 30, 31.
“ William, 42, 43, 193.
Hanes, Michael, 143.
Harcourt, John, 94.
Hardison, Benjamin, 187.
Hare, Barnabas, 175.
“ Catherine, 175.
“ Daniel, 62.
“ John, 170.
“ John, 175.
“ Mary, 175.
“ Stephen, 51.
“ William, 175.
Harffy, William, 43.
“ William, Junior, 136.
Harkimer, Charlotte, 86.
Harnes, Darius, 93.
“ Jasin, 92.
Harriman, Joseph, 194.
“ Nathaniel, 60.
Harris, Botten (Baltus), 60.
“ David, 29.
“ Gilbert, 29.
“ Joseph, 60.
“ Martin, 183.
“ Myndert, 127.
“ Peter, 60.
“ Rachel, 53.
Harrison, Christiana, 52.
“ Huldah, 184.
“ William, 55.
“ William, Junior, 52, 56.
Harrow, Captain, 43.
Hart, Mary, 107.
“ Moses, 109.
Hartle (see also Hertel).
“ Christian, 163.
“ Elizabeth, 106.
“ Sally, 106.
Hartman, Philip, 90.
Hartwell, Francis, 117.
Haskill, Joseph, 147, 148.
“ Nathaniel, 147, 148.
Haskins, Dradoma, 134.
“ Elisha, 30.
“ Elizabeth, 132.
“ Joseph, 46.
“ Nicholas, 132.
Haslip, Mary, 157.
Hastings, Nathaniel, 191.
Haugh, Jacob, 136.

Haugh, John, 22.
" Martin, 21.
Havens, George, 74.
Haviland (see Heaviland).
Hawl, Asa, 173.
Hawley, Davis, 86, 121.
" Jehiel, 88.
" Jeptha, 88, 122.
" Martin, 86, 121, 123 (2).
" Mary, 80.
" Russell, 86.
" Sheldon, 86, 121.
Haws, Edward, 132.
Hay, Governor, 144.
Hays, Mary, 181.
Hazen, Daniel, 116.
Heaviland, John, 63.
Heecock, Truman, 134.
Heilien, Andrew, 131.
Helmer, Ann, 110.
Henderson, Caleb, 31, 69.
" David, 134.
" Euterpie, 165.
" Hanah, 165.
" Jonathan, 134, 165.
Henesey, John, 72.
Hennsey, James, 154.
Henry, James, 69.
Herkemer (see also Harkimer).
" Capt. Henjoest, 75.
" Mary, 75.
" Nicholas, 85.
Herkimer, Laurence, 87.
Hern, Josiah, 81.
Herneclay, Joseph, 121.
Heron, Samuel, 102, 147, 184.
Herrick, Daniel, 158.
Herriman (see Harriman).
Hertel, Mary, 110.
Hesse, Jacob, 90.
Hetchlor, Six, 173.
Hewett, Jacob, 101.
" John, 6.
Hick, Samuel, 46.
Hicks, Benjamin, 51.
" Daniel, 56.
" Edward, 29, 56.
" Isaac, 87.
" Joseph, 78, 86, 176.
" Lewis, 87.
" Mary, 55.
Hicock (see Heecock).
Hill, Ebenezer, 41.
" Mrs. Isabella, 23 (2).
" Nazareth, 88.
" Patrick, 136.
" Thomas, 139 (2), 178.
Hills, Thomas, 182.
Hillton, William B., 27.
Hillyer, Lieut. Nathaniel, 192.
Hinman, Thomas, 62.
" Theron, 62.
Hix, Joshua, 60.
Hixon, Daniel, 45.
Hodges, Ebenezer, 184.
" Edmund, 184.
Hoen (see D'Hoen).
Hoffman (see also Huffman).
" Adam, 22.
" James, 29.
" Peter, 22.
" Sarah, 21.
Hoffnail (see also Huffnail, Hufnagle).
" Andrew, 21.
Holcomb, Magdalen, 93.
Holebert, Heman, 47.
Hollingshead, Anthony, 167, 169.
" Aschsah, 169.
" Isaac, 69.
" William, 182, 190.
Hollister, Mary, 110.
Holmes, Asa, 41.
" Charles, 117.
" Neil, 147.
" William, 152.
Holt, Barzille, 167.
" Moses, 161.
Honeywell, Daniel, 62.
" Ruth, 163.
" Isaiah, 62.
" Rice, 62, 68.
Honsinger, Margaret, 183.
Hoople, Eleanor, 111.
" Henry, 109.
Hooten, William, 158.
Hopkins, Moses, 61.
Hopper, Abraham, 168.
Horning, Abraham, 36.
" John, 119.
Hossack, Christina, 68.
Hotchkiss, Elizabeth, 77.
Hotrum (see Haderim).
Hough (see also Haugh, Huff).
" Asa, 20.
" Elizabeth, 148.
" Isaac, 152.
Hover, Henry, 96.
" Melison, 119.
How, Solomon, 132.
Howard, Dyer, 66.
" Edward, 75.
" Elizabeth, 66.
" John, 66.
" John, 191.
" Ensign Mathew, 66.
" Peter, 66, 134.
" Stephen, 66, 134.
" Thomas, 75.
Howe, Daniel, 85.
" Margaret, 87.
" Mathew, 85, 119.
" Ruth, 103.
Howell, John, 53.
" Mathew, 70.
Howland, Samuel, Junior, 78.
Hubbard, Jesse, 39.
" Thomas, 66, 132.
Hubel, Prindel, 141.
Huckleberry, Philip, 136.
Hudson, John H., 103.
Huff (see also Haugh, Hough).
" Bruin, 123 (2), 125.
" Charles, 20.
" Henry, 41, 176.
" John, 50, 80.
" Shadrach, 35.
" Solomon, 20. 80.
" Solomon, Junior, 80.
Huffman (see also Hoffman).
" Elias, 89.
" Philip, 22.
Huffnail (see also Hoffnail, Hufnagle).
" Jobot, 56.
Hufnagle, Sarah, 183.

Huggerman, Nicholas, 15.
Hughes, Ruben, 51.
Hughs, James, 162.
Hughson (see also Huson).
“ Jacob, 95.
“ Nathaniel, 158.
Hull, Eli, 60.
“ Israel, 41.
Humsted, Gideon, 128.
Hunsinger (see Honsinger).
Hunter, David, 17.
“ David, Junior, 77.
“ William, 158.
Huntley, Benjamin, 133.
“ Enoch, 133.
Hurd, Sally, 46.
Hurlbert (see Holebert).
Hurst, James, 38.
Huson, Caleb, 182.
“ Elijah, 182.
Hutchins, Henry, 167.
Huycke, Isaac C., 54.

I

Indian lands, 41.
Indian Point, 85, 86.
Indians:
  Chippewas, 116, 147, 157.
  Moravians, 164.
  Ochepise, 147.
  Shawanese, 41.
Indians, Purchases from, 193.
Ingersoll, Thomas, 34, 139, 190.
Ingleshart, Barnhart, 56.
Innis, Robert, 42, 137, 180, 190.
Iredell, Abraham, 43.
Irish, Peter, 123, 153.
“ Robinson, 158.
Iron works, 65, 131, 136.
Islands:
  Grenadier, 3.
  In Grand River (Cataraqui), 85.
  Tonté, 50.
Ives, Arnon, 64.

J

Jackson, Anne, 175.
“ David, 88, 89.
“ James, 123, 175.
“ Joseph, 137.
“ John, 148 (2).
“ Margaret, 175.
“ Peter, 175.
“ Robert, 97.
“ Robert, Junior, 97.
“ Robert, Senior, 97 (2).
“ Thomas, 90.
Jacob, George, 137.
Jacobs, Jonathan, 194.
Jacocks, David, 164.
Jahonnett, Cesar, 165.
Jalin, Charles, 69.
Jameson, William, 140.
Jarvis, Hanah Owen, 126.
“ William, 32, 126, 137.
Jefferies, James, 69.
Jenkins, Solomon, 11.
Jerome, Asahel, 60.
Jessup, Col., 7.
“ Major Edward, 171, 175.
“ Capt. Joseph, 48.
Jews, unable to hold lands, 109.
John, Thomas, 49.
Johns, Daniel, 68.
Johnson, Abraham, 178.
“ Ann, 48.
“ Anna, 148.
“ Anne, 28, 39.
“ Asa, 155.
“ Conrod, 175.
“ Frederick, 101.
“ George, 28 (2), 39.
“ Isaac, 3.
“ Jacob, 22.
“ James, 56, 82.
“ Sir John, 50, 96, 156, 157.
“ John, 140.
“ Josiah, 178.
“ Lawrence, 127, 177.
“ Margaret, 137.
“ Nicholas, 177.
“ Thomas, 177.
“ William, 120 (2).
“ William, 153.
Johnston, Andrew, 53.
“ Henry, 53.
“ Isabel, 93.
“ James, 40.
“ Joseph, 140.
“ Lieut. William, 28, 185.
Johnstone, Andrew, 71.
Jones, Augustus, 2, 17.
“ Benjamin, 66.
“ Charles, 62.
“ Daniel, 46.
“ David, 66, 162.
“ David, 134.
“ Lieut. David, 161.
“ David, Senior, 16.
“ Eldad, 69.
“ Elias, 61.
“ Elizabeth, 71.
“ Ephraim, 71, 173.
“ John, 23, 182.
“ John, 145, 150.
“ Capt. John, 190.
“ Lieutenant, 66.
“ Marshall, 187.
“ Sarah, 180, 190.
“ Solomon, 16, 161, 162.
“ Thomas, 154. 190.

K

Kaine, Elizabeth, 113.
Karr, David, 94.
Katchbow, Chris., 118 (2).
Keeler, James, 182.
“ Joseph, 59 (2), 63 (4), 64 (2), 142, 153 171.
“ Martin, 59.
Keith, Jonathan, 136.
“ Ruel, 136.
“ Scotland, 136.
“ Union, 136.
“ Unite, 136.
Kellar, ———, 118.

Kellar, Frederick, 26.
" Henry, 29.
" Jean, 92.
" John, 29.
" Magdalane, 96.
Keller, John, 21.
" Philip Martin, 56.
Kelly, John, 14.
" John, 62, 95.
" William, 63, 73.
Kemp, David, Junior, 11.
" John, 20, 50, 121.
" Mary, 20.
Kendrick, Duke William, 18, 178, 192.
" Hiram, 178.
" John, 178.
" Joseph, 177, 192.
Kennedy, Alexander, Senior, 181.
" Allen, 181.
" William, 28.
Kerr, Agnes, 153.
" Dr. Robert, 37, 151, 153, 157, 168.
" Robert, *et al*, 153.
" William Johnson, 153.
Kesler, Michael, 52.
Kessler, Stephen, 140.
Kesyler, William, 169.
Ketcham, David, 138.
Ketcheson (see Kitcheson).
Kief, Francis, 52.
Kilborn, Abel, 66.
" David, 31.
" David, Senior, 95.
" Herman, 30.
" Samuel, 31.
" William, 30.
Kilburn, Benjamin, 68, 77.
" Hannah, 69.
" James, 84.
" Lucy, 76.
" Samuel, 132.
Killburn, Anthony, 41.
Kincaird (Kincaid), John, 132.
King, Charles, 30, 151, 157.
Kingston, Town of, 16 (2), 17, 24, 28 (5), 35 (2), 44 (3), 45, 51, 70 (2), 76, 79, 80, 84 (2), 85 (5), 86 (5), 88, 91 (6), 92, 96 (2), 126, 130 (5), 137, 159 (2), 161, 174, 190 (2).
Kintner, George, 164.
Kirby, Elizabeth, 82.
" John, Junior, 32.
Kitcheson, William, 124 (2).
Kitson, John, 168.
Klingenbrunner, Nicholas, 128.
Knappen, David, 184.
" Truman, 184.
Knight (see also Night).
" Cornelius, 80.
" Isaac, 80.
" Mahlon, 80, 117.
Knolton, Thomas, 30.
Knowlton, Thomas, Senior, 70.
Koughnet (see Coughnutt).
Koyle, Ephraim, 132.
Krickel, Nicholas, 56.
Kuhn, Peter, 116.

L

Lain, Jacob, 173.
Laird, John, 69.
Lake, Christopher, 89.
" James, 89.
" Jane, 133.
" John, 89.
" Nicholas, 70.
" Phebe, 70.
Lake Simcoe, 115.
La Mothe, Elizabeth, 79.
Lampin, Anthony, 109.
" Mary, 109.
Lampson, James, 175.
" William, Junior, 175.
La Musique, Jean, 69.
Lamb, Isaac, 66.
" Isaac, Junior, 66.
Land, Ephraim, 158.
Land grants, 18.
Land grants to women, 26.
Landon, Asa, Junior, 69.
" Asa, Senior, 31.
" Electa, 76.
" Elizabeth, 30.
" Herman, 30.
" Rebecca, 76.
Lane, George, 133.
" Joseph, 62, 63.
" Roger, 194.
" Solomon, 41.
Lang, John, 108.
Langlade, Charles, Junior, 37.
" Charles, Senior, 37.
Lapan, Anthony, 18.
Lapp, Amy, 81.
" Jeremiah, 78, 82.
Laraway, Hannah, 25.
" Peter, 25.
Larocque, Francis, 190.
" Francis, Junior, 190.
Laroway, Peter, 185.
Larraway, Isaac, 93.
Larway, Harmanus, 92.
Laselle, Nicholas, 138.
Latham, James, 84.
Laton, Samuel, 24.
Laughlin, Alexander, 190 (2).
" Daniel, 184.
Launay, Joseph, 58.
Laundrie, Gabriel, 58.
Lawe, Mrs. Elizabeth, 159.
" George, Junior, 172.
Lawrence, Daniel, 73.
" John, 121.
" John, 151.
" Levi, 28.
" Richard, 70, 127, 177.
Lawson, Abraham, 3.
Leach, Rufus, 136.
Leahy (see also Leaky).
" Elizabeth, 67.
" John, 67.
" Robert, 67.
" William, Senior, 67.
Leake, Margaret, 83.
" James, 122.
Leaky, William, 173.
Lee, David, 133.
" John, 47.
" William Hooker, 41.
Leech, Joshua, 129.
L'Etourneau, Peter, 191.
Legislative Councillor, 171.
L'Maire, Christopher, 139.

Leman, Laurence, 176.
Lemont, Jemimah, 69.
Leonard, John, 91.
Leonney (see also Loeney, Lowny).
“ John, 85.
Leslie, George, 65.
Lewis, Adam, 57.
“ Edmund, 47.
“ Levy, 15.
“ Levy, Junior, 15.
Lickers, Henry, 36.
Lieth, James, 43.
Lincoln, Elihu, 61.
Lindsey, James, 26.
Lines, Nathaniel, 35, 91.
Link, Mary, 108.
“ Mary, 110.
“ Mathias, 107.
Lippencutt, Richard, 156.
Lipps, John, 138.
Little, John, 136.
Livingston, John, 132.
“ Capt. John William, 169.
“ William, 134.
Lloyd (see also Loyd).
“ Daniel, 124.
“ Henry, 124.
Lock, Jacob, 11.
Lockwood, David, 74.
“ Elezer, 170.
“ Hannah, 74.
“ Henry, 26.
“ John, 26.
Lodor, Job, 91.
Loeney (see also Leonney, Lowny).
“ Eleanor, 105.
“ Edward, 107.
Loft, Leany, 83.
London, Richard, 14.
Long, Elias, 14, 155.
“ Jacob, 14.
“ Philip, 154.
Long Point settlement, 4, 7, 8 (2), 30, 38, 116, 137, 144.
Longuiel, Madam, 186.
“ Monsieur, 186, 188.
Longwill, John, 71.
Lonie, Pierre, 87.
Lorain, Charles, 148.
L'Orignal, Seigniory of, 71.
Losee, William, 53.
Lott, John, Junior, 70.
“ Peter, 58.
“ Philip, 70.
Lotteridge, Captain, 189.
“ John, 151.
“ Robert, 168.
“ William, 151.
Lottridge, Captain, 152.
“ Robert, 2.
Loucks, Henry, 92.
“ Joseph, 143.
Louks, Abraham, 46.
“ Catherine, 94.
Lounsbury (see also Lownsberry).
“ Robert, 38.
Lovelace, Ebenezer, 138.
Loveless, Jeremiah, 75.
Lovelle, John, 91.
Loverin, John, 69.
Lownsberry (see also Lounsbury).
“ William, 73.
Lowny (see also Leonney, Loeney).
“ Samuel, 106.
“ William, 106.
Loyalist claims, 31.
Loyd (see also Lloyd).
“ Catherine, 20.
“ Daniel, 22.
“ Henry, 20.
Loyed, William, 117 (2).
Loyst, Henry, 25.
Lucas, Amos, 87, 94.
“ George, 87, 94.
“ Susannah, 92.
Ludwig, Frederick, 52.
“ Mary, 52.
Luscombe, Samuel, 73.
Lutes, Joseph, 127.
“ Margaret, 37.
Lymburner, John, 11.
“ Mathew, 11, 41.
Lynch, James, 113.
Lyons, John, 178.
“ Thomas, 178.

M

Mabee, Levinia (Levinah), 127, 174.
McAfee, Dudley, 49.
McAlpin, George, 95.
McArthur, Daniel, 193.
“ Donald, 113.
“ John, 52.
“ John, 113.
“ John, Junior, 52.
“ Peter, 113.
“ Peter, 193.
Macaulay, Robert, 119.
Macauley (see Macaulay,McAulay,McCaulay, McCauley).
McAulay, Robert, 130.
McAvay, Dennis, 49.
McBride, George, 135.
“ Peter, Junior, 175.
McCall, ———, 38.
“ Donald, 173 (2).
“ John, 159.
McCartie, Michael, 60.
McCartney, Joseph, 51.
“ Michael, 54.
“ William, 142.
McCaulay, Dr. James, 57.
“ Mrs., 57.
“ Robert, 118.
McCauley, James, 18.
“ John, 24.
“ Robert, 32, 96.
McCleas, ———, 6.
McCollom, Benedict, 132.
“ Ethan, 132.
McConnell, Hugh, 118, 124.
McCool, Joseph, 11.
“ William, 11.
McCord, Sarah, 84.
McCormick, Alexander, 138.
McCrae, Thomas, 39, 43.
McCready, Ann, 179.
“ Anthony, 179.
“ David, 179.
“ John, 179.
“ Mary, 114.
McCrimmen, Donald, 52.
“ Elizabeth, 52.

McDonald, Sgt. Mjr. Alexander, 45.
" Angus, 73.
" Donald, 78.
" Donald, 142.
" John, 32, 96.
" John, 85.
McDonell, ———, 116.
" Alexander, 105, 107.
" Alexander, 110.
" Alexander, 139, 152, 167.
" Alexander (Sheriff), 155, 157.
" Alexander, 190.
" Alexander (Glengarry), 194.
" Capt. Allan (K.R.R.N.Y.), 15.
" Capt. Allan (84th Regt.), 151.
" Allan, 166.
" Allan, 175.
" Angus (York), 37 (2), 151, 157.
" Angus, 49.
" Angus, 110 (2).
" Angus, *et al*, 151.
" Ann, 110.
" Ann, 175.
" Capt. Archibald (K.R.R.N.Y.), 15.
" Lieut. Archibald (84th Regt.), 118 (2), 122 (3).
" Barbara, 78.
" Catherine, 49.
" Catherine, 106.
" Catherine, 110.
" Catherine, 111.
" Mrs. Catherine, 150.
" Donald, 107.
" Donald, 110.
" Donald, 110.
" Donald, 117 (2), 121 (3), 174.
" Donald, 167.
" Duncan, 104 (2).
" Duncan (84th Regt.), 110.
" Duncan (K.R.R.N.Y.), 110.
" Elizabeth, 39.
" Elizabeth, 181.
" Farquhar, 138.
" Florey, 105.
" Helen, 44.
" Heneritta, 181.
" Hugh, 110.
" Isabella, 181.
" Sgt. James (Detroit), 152.
" James, 157.
" Jane, 110.
" Jane, 180.
" Jannet, 104.
" Jenny, 105.
" Jenny, 113.
" John (Cornwall), 110.
" John (84th Regt.), 110.
" John (W. ½ 17, Cornwall), 110.
" John, 110 (2).
" John, 152.
" John, 163.
" John, 166.
" John, 181.
" John, 181.
" John Roy, 181.
" Kitty, 105.
" Kitty, 107.
" Margaret, 110.
" Margaret, 181.
" Margery, 163.
" Mary, 105.
" Mary, 105.
McDonell, Mary, 110.
" Mary, 110.
" Mary, 111.
" Mary, 146.
" Mary, 175.
" Mary, 188.
" Capt. Miles, 27, 152.
" Lieut. Ranald, 45.
" Rev. Roderick, 166.
" Roderick, 181.
" Roderick, 181.
" Sally, 110.
" William, 164.
McDougal, Catherine, 114.
McDougald, Donald, 167.
McDougall, Allan, 117.
" Barbara, 28.
" Hannah, 90.
" John, 97.
" Mary, 90.
" Peter, 90.
" Robert, 43.
McEachron, Daniel, 30.
McEwan, Rachael, 110.
McFall, Capt. David, 45.
McFee, Ann, 104.
McFerson, James, 168.
McGill, Catherine, 36.
" Hon. John, 6, 131, 156.
McGillis, Christy, 164.
" Isabella, 181.
" John, 142.
McGlaughlen, Alexander, 181.
McGloghlon, David, 110.
" Robert, 110.
McGrah, Catherine, 25.
" Christopher, 20.
" Jean, 20.
" Owen, 22.
" Rachel, 21.
McGrath, Hannah, 92.
" Owen, 124.
McGregor, Catherine, 106.
" Col. Gregor, 42, 57.
" Isabella, 112.
" John, 24.
" John (Sandwich), 42, 180.
" Robert, 146.
McGruer, Christian, 106.
" Margaret, 114.
McGuin, Ann, 81.
" Anthony, 82.
McIlmoil, John, 133.
McInnally, Christopher, 57.
McIntire, Hanah, 181.
" Nelly, 113.
McIntosh, Angus, 42, 143.
" Benjamin, 139.
" Catherine, 106.
" Isabella, 106.
" Jane, 164.
" John, 106.
" John, 167.
" John, 175.
" Lauchlin, 81.
" Mary, 113.
" Patrick, 164.
" William, 113.
McIntyre, John, 158.
McKage, William, 60.
McKay, Angus, 112.
" Ann, 87.

McKay, Anne, 112.
“ Christy, 112.
“ Daniel, 113.
“ Jacob, 49.
“ John, 128, 168.
“ Marcella, 168.
“ Samuel, 87.
McKee, Col. Alexander, 42 (2), 43, 98, 137, 144, 147.
McKenzie, Alexander, 42.
“ Barbara, 78.
“ William, 79.
McKeyes, Barnabas, 63.
“ Daniel, 60.
McKim, James, 121.
McKinlay, John, 120.
McKinley, John, 129 (9), 130 (8).
McKinsie, Isabella, 181.
McKiny, Samuel, 16.
McKinzie, Collin, 89.
McKirman, John, 64.
McLaney, John, 127, 134.
McLaren, Anne, 112.
“ Archibald, 77 (2).
“ Mary, 67, 84.
“ Nancy, 67, 84.
“ Lieut. Peter, 77.
McLary, James, 11.
McLauchlin, John, 35.
McLaughlin, Edward, W., 11.
“ James, 193.
“ John, 86 117 (2).
“ John, 194.
McLaughlon, John, 117 (2).
McLean, Allan, 24, 50.
“ Catherine, 106.
“ Duncan, 102, 175.
“ Grace, 164.
“ Harriet, 96.
“ Henry, 77.
“ Hugh, 18, 126.
“ Jean, 68.
“ John, 31, 77.
“ John, 138.
“ Mary, 85.
“ Lieut. Niel, 15.
“ Niel (Kingston), 50, 96.
“ Rebecca, 95.
“ Robert, 68, 78, 179.
“ Stephen, 17.
“ William, 85.
McLees, see McCleas.
McLeland, Archibald, 106.
Maclem, James, 116.
McLenan, Sarah, 113.
McLeod, Christian, 163.
“ Harriot, 164.
“ Jenny, 164.
“ John, 117.
“ Mary, 164.
“ Peggy, 105.
McLinnan, Alexander, 75.
McMartin, James, 120.
“ Malcolm, 114.
“ Margaret, 114.
“ Nelly, 168.
McMichael, Edward, 29, 38, 138, 143, 158 (2).
“ Isaac W., 11.
“ John, 95.
McMichel, Elizabeth, 164.
McMicken, Peter, 148.
McMillan, Lieut. Alexander, 188.
McMillan, Donald, 105.
“ Donald, 110.
“ Kitty, 105.
“ Kitty, 105.
“ Susanna, 107.
“ William, 73.
McMullen, Catherine, 26.
McMullan, Hugh, 168.
“ Mary, 114.
McNabb, Alexander, 50, 146.
“ Lieut. Allan, 126, 175.
“ Colin, 160.
“ James, 172.
McNaughton, Donald, 112.
McNeil, Archibald, 133.
“ Archibald, 133, 160.
“ Euraney, 165.
McNiel, Elizabeth, 68.
McNiff, Patrick, 108.
McNutt, James, Junior, 57.
McPhee (see McFee).
McPhale, Ann, 163.
“ Archibald, 110.
“ Margry, 110.
McPherson (see also McFerson).
“ Corp. Daniel, 118.
“ Dougald, 112.
“ Kenneth, 78.
“ Peter, 82.
McQueen, Alexander, 97.
McRae, Anne, 112.
McRoberts, Mary, 151.
McTagert, Peter, 21.
“ Samuel, 21.
McVagh, Levenia, 166.
McVey, Unah, 179.
Magistrate, 16, 17, 21, 32, 35, 39, 40, 51, 52, 53 (2), 69, 75, 85, 87, 92 (2), 146 (2), 160, 165, 166 (3), 173, 178.
Magraw, Margaret, 51.
Mahar, Michael, 70.
Maisonville, Alexis, 43, 143.
Malcolm, Finlay, Junior, 11.
“ John, 11.
Mallat, Abraham, 45.
Mallet, Peter, 138.
Mandeville, Richard, 149.
Mann, Lieut. John, 108.
“ Samuel, 154.
Maple sugar, 127.
Marcilles, John B., 168.
Marigan, James, 11.
Mark, Gasport, 56.
Markal, Leany, 83.
Markland, Thomas, 75 (2), 96, 118, 119 (2), 130.
Markle, Henry, 23.
“ Jacob, 23.
“ Michael, 143.
“ Suffelt, 141.
Markley, Charles, 147.
Marlborough, Inhabitants of, 46.
Marrim, Samuel, 61.
Marselas (see also Marcilles).
“ George, 175.
Marsh, Catherine, 110.
“ Jesper, 65.
“ Mathias, 119, 125.
“ Robert, 51.
“ Samuel William, 154.
Marsh, William, Junior, 72.

Marther, Samuel, 148.
Martin, Amos, 90.
“ Ann, 111.
“ James, 141.
“ John, 42.
“ Moses, 60.
“ Peter, 45.
“ Richard, 45.
Masten, Peter, 62.
Masters, Daniel, 79.
Mathas, Thomas E., 95.
Mathews, Amer, 193.
Matlock, Caleb, 50, 150.
Matterson, Caleb, 17.
Matteson, Philip, 66.
Mattice, Abraham, 185.
“ Ann, 109.
“ Elizabeth, 101.
“ Elizabeth, 163.
“ Jennet, 166.
“ Lanah, 95.
“ Mary M., 83.
Maybe, Abraham, 53.
“ Peter, 35.
Maybee, John, 80.
“ Leah, 154.
Mealey, Patrick, 128.
Meldrum, George, 42.
Melvin, Isaac, 146.
Merchant, 16, 27, 58, 137, 159, 160, 174.
Meriman, Mercy, 179.
Merkill, Henry, 166.
“ John, 166.
Merkle, Richard, 108, 109 (2).
Merkley, Henry, 105.
Merrick, Stephen, 23.
Merrill, Rogger, 61.
Merriman, Joel, 59, 64.
Merrit, Joseph, 87.
“ Josette, 87.
“ Lieut., 87.
“ Mary, 138.
“ Cornet Thomas, 138.
Merrium, John, 95.
Merry, Benjamin, 39.
Messenger, Martin, 60.
Meyers (see also Myers).
“ Ally, 83.
“ Jacob W., 58.
“ John, 11.
“ Capt. John W., 58, 71 (2).
“ Leonard W., 71.
Miamis, 6.
Michael, Cutlip, 184.
“ Elizabeth, 184.
Michel, Harry, 179.
Middauch, Gilbert, 66.
Middleton, Robert, 55.
Midland District Commission Report, 193.
Mikel (see Michael).
Miles, Abner, 128.
“ James, 148.
Mill site, 6, 7, 9, 32, 50, 94, 126, 131, 132, 134, 139, 144, 162, 175.
Miller, Agnes, 83.
“ Andrew, 78, 81, 118, 121.
“ Widow Christy, 166.
“ Cornelius, 51.
“ Garret, 29, 82.
“ George, 75.
“ Hannah, 104.
“ Henry, 132.
Miller, Jacob, 51.
“ Jacob, 88, 119.
“ Jenny, 78.
“ John, 51.
“ Nicholas, 168, 178.
“ Peter, 81.
“ Stephen, 106.
“ William, 30.
Mills, Frederick Lewis, 46.
“ William, 51.
Milross, Thomas, 104.
Milton, Jane, 83.
“ John, 83.
Minaker (see Miniker, Myneker).
Miniker, Frederick, 52.
“ Loadowick, 52.
Minorca, Island of, 9.
Misener, John, 11.
“ Peter, 11.
Missimer, John, 34.
Mitchel, Isaac, 182.
“ Jehiel, 133.
“ Margaret, 111.
“ Sarah, 179.
Mitchell, Nathan, 62.
Mix, John, 63.
Monforton, William, 17.
Monshur, Balsu, 178.
Monteith, Hugh, 138.
Montgomery, Archibald, 46 (2).
“ Hugh, 173.
“ Susanah, 47.
Montross, Amy, 37.
“ Anderson, 37.
“ Fanny, 37.
“ Hannah, 37.
“ Leah, 154.
“ Levi, 37.
“ Margaret, 37.
“ Peter, Junior, 37.
“ Peter, Senior, 37, 154.
“ Silas, 37.
“ Simon, 37.
Moody, Walter, 156, 185.
Moor, John, 56.
Moore, John, 91.
“ Mary, 109.
“ Patrick, 62.
“ Thomas, 47.
Moravian Society, 164.
Morden, Daniel, 28.
“ John, 182.
“ Joseph, 187.
Mordoff (see also Murdoff).
“ James, 33.
“ Lois, 33.
“ Thomas, 24.
More, Mary, 36.
Morey, Joseph, 120.
Morgan, ———, 98.
“ John, 45, 159.
“ John Stile, 11.
Morris, Mathias, 62.
Morrison, David, 166.
“ Henry, 134.
Morse, Lieut. Humphrey, 194.
Moseley, Ann, 71.
“ George, 71.
Mosely, Benjamin, 128.
Mosier (see Mosure).
Moss, John, 112.
Mosure, John, 74.

Mott, Amy, 78.
Motz, Henry, 50, 55, 82, 86, 117 (2), 119.
Mountain, Settlers in, 19.
Muckle, John, 14, 15.
" John, Junior, 12.
Mudge, Elijah, 49.
" John, 49.
Muirhead, James, 10, 11 (6), 12, 13 (3), 117.
" John, 117.
Mulholland, Hugh, 192.
" James, 192.
Mulloy, Thomas, 168.
" Wieney, 114.
Munro, Anne, 113.
" Frances, 66.
" Hon. John, 44.
" John, 105.
" Margaret, 105.
" Mary, 111.
Munsell, Benjamin Ruggles, 67.
Munshaw (see Monshur).
Murchinson, Colin, 181.
Murchison, Duncan, 141.
" John, 24.
" Murdoch, 24.
Murdoff (see also Mordoff).
" George, Senior, 93.
" Margaret, 93.
Murphy, Timothy, 137, 145.
Murpot, Michael, 22.
Musculus, John Charles, 80.
Myers, Fredericka, 184.
" George William, 148.
" John W., 118.
" Michael, 110.
Myneker, John, 78.

N

Nellis, W. Henry, 8.
Nettleton, Amos, 179.
" Amos, Junior, 178.
" Deborah, 46.
" Stephen, 132.
New Brunswick, 131.
New Jersey, 8.
New Johnstown, 46, 111.
New Regulations, 162.
New Settlement, Lake Erie, 139.
Newcastle, Town of, 33, 95.
Newark, Town of, 4, 8 (2), 23 (3), 24 (3), 26, 36, 38, 44, 48, 49 (3), 57, 59, 79, 116, 128 (2), 138, 148 (2), 153 (2), 155, 168, 175.
Niagara, 4, 8.
Nichol, Robert, 141.
Nichols, Israel, 194.
" Silas, 75.
Nicholson, Archibald, 21.
" Israel, 46.
Nickerson, Eliud, 60.
Night, Nancy, 47.
Nooth, J. Mervin, 128.
North, James, 52.
" Winifred, 56.
North West Company, 150.
Norton, John, 39, 148.
Nugent, John, 61.
" Robert, 129.
Nunn, Samuel, 12.

O

O'Bryan, James, 173.
" Roger, 30.
Obryon, William, 64.
O'Carr (see O'Chu).
O'Chu, Peter, 135.
Officers' Wives, 150.
Ogden, John, 64, 161.
Olcott, Timothy, 63.
Oldfields, Nathaniel, 38.
Olds, Gilbert, 12.
Oliver, Aaron, 24.
" Ann, 24.
" Cornelia, 24.
" Elizabeth, 24.
Olker, Elisha, 71.
Olmsted (see Humsted, Umstead).
Omsted, ———, 14.
" Gideon, 12, 128.
" Jonas, 12.
O'Neil, Elizabeth, 29.
" Lieutenant, 29, 137.
" Mary, 137.
" Miss, 159.
Orbele, Conrod, 82.
Orr, William M., 61.
Orsburn, Allice, 146.
Orser, Gabriel, 79.
" Isaac, 80.
" Mary, 86.
Osburn, Mary, 35.
Ostrander, ———, 184.
" Andrew, 12.
Otto, Elizabeth, 108.
" Francis, 167.
" Gottlieb, 142.
" Mary Barbara, 105.
Otts, Thomas, 194.
Overholt, Abraham, 34.
" Elizabeth, 57.
" Isaac, 12.
" Jacob, 12.

P

Pacquette, John, 74.
Paine, Tom, 183, 185.
Pajot, ———, 193.
Palmer, Caleb, 73.
" David, 28.
" George, 63.
Palmerton, James, 184.
Palstt, Rudolff, 165.
Papineaux, ———, 186.
Papts (see Palstt, Popst).
Pardoe, John, 137.
Park, William, 43, 137.
Parke, William, 180.
Parker, Amos Mathews, 194.
" Ichabod, 167.
" Samuel, 60.
" Samuel, Junior, 60.
Parkes, William, 137.
Parkins, Clark Rice, 68.
Parks, David, 24.
" Dianah, 25.
" Nathan, Junior, 164.
" Nathaniel, 25.
" Sally, 104.
" Sarah, 92.

Parmely, Thomas T., 46.
Parmer, James, 60.
Parnel, Abraham, 46.
Parrott, Lieut., 119.
Parry, John, 191.
Parsons, Chattwell, 19.
Paterson, Allan, 65.
“ Whitfield, 134.
“ William, Junior, 133.
Patterson, William, 133.
Pattinson, Richard, 42, 180.
Pawling, B., 9.
Paxton, Thomas, 159.
Payson, Ephraim Holland, 127.
Peck, Cornelius, 31.
Peek, Cornelius, 184.
“ James, Junior, 184.
“ James, Senior, 184.
“ Samuel, 184.
Peer, Edward, 27.
“ Jacob, 27.
“ John, 27.
“ Philip, 27.
Peese, Joseph, 133.
Pember, Philip, 35, 82, 122, 124.
Peneck, Samuel, 66.
Pennock, Abelec, 17.
“ Ann, 173.
“ Samuel, 17.
“ Sarah, 76.
Penock, Philimon, 174.
Pensyl, John, 25.
Pepper, Elizabeth, 104.
Perring, Frederick, 60.
“ Rana, 62.
Perry, Ann, 39.
“ Barney, 12.
“ Ezra, 12.
“ Nathaniel, 136.
“ Robert, 39.
“ Zacheus, 134.
Peters, Bemslee, 69, 119, 125, 145.
“ Darcus, 190.
“ Elijah, 191.
“ Mrs. Elizabeth, 159.
“ John, 53.
“ Mary Ann, 17.
“ Samuel, 191.
“ Thomas, 46.
“ William B., 38.
Peterson, Nicholas, 125 (2).
“ Paul, 124.
Petit, ———, 152.
Petry, Joseph, 168.
Pettit, Daniel, 35.
“ Isaac, 12, 30.
“ John, 14, 15.
“ Martha, 54.
“ N., 11.
“ Uriah, 12, 29.
Phelps, Davenport, 117.
“ Josiah, 115.
Philips, Daniel, 133.
“ Elisha, 56, 124.
“ Joseph, 62.
Phillips, Elisha, 93.
“ John, 57.
“ Margaret, 26.
“ Mary, 90.
Pick, Caleb, 31.
Pickell, John, Junior, 21.
Pier, Stephen W., 12.
Pierce, Andrew, 5, 14.
Pilkington, Lieut., 5.
Pine, Catherine, 91.
Piper, Caleb, 41.
Pitts, Samuel, 61.
Plangert, Conraudt, 36.
Plate (Platto), Gertrude, 154.
“ Peter, 154.
Plattsburg, New York, 183.
Playter, Ely, 128.
“ George, 116.
“ Messrs., 101.
“ Sarah, 65.
Plummer, Lucretia, 86.
“ Thomas, 38, 85.
Pollard, Richard, 43, 137.
Popst, Adam, 167.
Popts, Frederick, 109.
“ Mary, 109.
Porter, Dorothy, 135.
“ George, 127, 128.
Post, Ashbel, 41.
“ Frederick, 118.
“ Jediah H., 158.
“ John, 25.
“ Unice, 161.
Pother, Philip, 148.
Potter, Jesse, 54.
Pottier, John, 48.
Potts, Reynard, 32.
Powell, Mrs. Anne, 95, 115.
“ John, 147.
“ William Dummer, 83, 115
Powley, Elizabeth, 82.
“ Jacob, 81.
Pratt, Ebenezer, 132.
Prefle, Rev. Mr., 28.
Presqu'isle, 33.
Preston, Isaac, 55.
Price, Christian, 57.
“ John, 67.
“ Thomas, 83.
Prindle, Hulday, 94.
“ Joel, 93.
“ Louis, 20.
“ Mary, 92.
Pringle, Joseph, 118.
“ William, 118.
Printer, 6.
Proctor, Joseph, 72.
Prosser, Jonathan, 58.
Protin, Pierre, 69.
Provost, Joseph, 41.
Prunner (see Bruner).
Pruyn, Francis, 89.
“ Harman, 22.
“ Katherine, 21.
“ Mary, 55.
“ Mary, 155.
“ Matthew, 35, 125.
Pulman, Robert, 47.
Purdy, Caleb, 72.
“ Charlotte, 86.
“ Gilbert, 60.
“ Gilbert, 82.
“ Joseph, Junior, 59.
“ Mary, 82.
“ Micajah, 122.
Purvis, John, 28.
Putman (see Pulman).
Putnam, Mary, 104.

Q

Quackenbush, Peter, 72.
Quant, Jacob, 140.
Quick, Franey (Faney), 45.
" John, 136.
Quinté, Bay of, 52, 82.

R

Raddish, Rev. Thomas, 34, 49.
Raden, Phillip, 60.
Rainey (see also Renny).
" Seth, 122 (3).
" William, 17.
Rambough, Christien, 109.
" Jacob, 108, 109.
" William, 25.
Randall, Benjamin, 132.
Rankin, James, 85.
Ransier, Elizabeth, 85.
" William, 81.
Rattan, Jemima, 81.
" Mary, 72.
" Peter, 81.
Rawdon, Inhabitants of, 50.
" Lord, 4.
Raymond, Ephraim, 173.
Read, Jane, 95.
" Obediah, 77.
" Rebecca, 76.
Reaum, Charles, 173.
Reddick (see Riddick).
Reddin (see Ridden).
Redick, Peggy, 165.
Redford, Thomas, 112.
Reed, John, 73.
" William, Junior, 73.
" William, Senior, 73.
Reese, Peter, 194.
Reid, Luke, 136
Rely, Thomas, 47.
Renny, Seth, 86.
Reserve, 16, 32, 46, 52, 57, 67, 102, 115, 121, 127, 142, 148, 160, 188.
Reynolds, George, 49.
" Henry, 49.
" John, 49.
" Lucy, 49.
" Othaniel, 49.
" Richard, 49.
" Sarah, 49.
" Thomas, 115.
" William, 49.
" William, Junior, 28, 49.
Reynolds' settlers, 49.
Rich, Levi, 23.
Richards, Daniel, 78, 84.
" John, Junior, 84.
" Margaret, 50, 91.
" Owen, 84.
Richardson, Amos, 93.
" Benjamin, 59, 64.
" Benjamin, Junior, 61.
" Eve, 24.
" Henry, 93.
" James, 51, 67 (2), 70, 118.
" James, 64.
" John, 61.
" Joseph, 61.
" Dr. Robert, 43.
Richardson, Sarah, 70.
" William, 66.
Richie, Henry, 174.
Richmond, Cyrus, 64.
" Ichabod, 62.
" Sylvester, 64.
Rickley (see Rikely).
Ridden, Francis, 120.
Riddick, Philip, 16.
Ridner, Henry, 36.
Ridout, ———, 145.
" Mary, 48.
Rightmyer, William, 35.
Rikely, Mary, 94.
Rimmerman, Henry, 161.
Rivers:
  Black Creek, 38, 121, 162.
  Collin's Creek, 7, 79.
  Detroit, 23.
  Don, 6, 44, 128 (2), 145, 156.
  Four Mile Creek, 5.
  Gananoque, 94.
  Grand (Cataraqui), 85, 117, 120.
  Grand (Ottawa), 183, 185.
  Great (Cataraqui), 122, 123.
  Humber, 6.
  Ottawa, 129 (6).
  Petite Nation, 175.
  Rideau, 129 (2).
  St. Lawrence, 129, 164.
  Thames (or La Tranche), 4, 7 (2), 19, 41, 116, 139, 142, 147, 164.
Roach, Maurice, 128.
Robbins, John, 59.
Robertson, ———, 40.
" Daniel, 166.
" Elizabeth, 96.
" James, 86.
" Mary, 105.
" Neil, 106.
Robins, Francis, 104.
" James, 92.
" Richard, 58.
" William, 59.
" William, 85.
Robinson, ———, 19 (2), 183, 186.
" Christopher, 71.
" James, 29, 85.
Roblin, John, 36.
" Owen, 35, 36.
" Philip, 35, 121.
" Stephen, 184.
Rocheleau, Francois Xavier, 28.
Roe, Coleman, 19.
" Walter, 43.
Rogers, Benjamin, 12.
" David McG., 59, 64, 160.
" Major James, 160.
" John, 182.
" Mary, 160, 182.
" Lt. Col. Robert, 59, 160.
Roman Catholics of Stormont, 166.
Root, Azariah, 187.
Rorison, Bazil, 34, 38, 70.
Rose, Catherine, 91.
" Ezekiel, 47.
" Janet, 181.
" Moses, 133.
Rosebush, Joseph, 65.
" Solomon, 17.
Rosenburg, Jacob, 176.
Ross, Alexander, 52, 114.

Ross, Andrew, 97.
“ Christian, 105.
“ Christian, 112.
“ Donald, 167.
“ James, 167.
“ John, 98.
“ Mary, 114.
“ Mary, 114.
“ Robert, 163.
“ Wate, 25.
“ William, 25.
“ Zenos, 21, 124.
Rousseau, Jean Baptiste, 32.
Row, Lydia, 76.
Rowe, Thomas, 140.
Roys, Dorothy, 111.
“ Sarah, 167.
Ruggles, General, 128.
“ James, 128, 177.
Runion, Hanah, 164.
Ruport, Peter, 109.
Rush, Andrew, 81.
“ Martin, 58.
“ Martin, Junior, 73, 165.
“ Martin, Senior, 73, 165.
Russell, Ann, 27.
“ Elizabeth, 18, 126.
“ James, 27.
“ Jean, 27.
Ruttan (see also Rattan).
“ Jacob, 56.
“ Peter, 35.
Ryan, James, 48, 57.
“ Margaret, 32.
Ryckman (see also Rykman).
“ Albert, 29.
“ John, 36.
“ John, Junior, 53.
“ John, Senior, 53.
“ Mary, 83.
Ryerse, Samuel, 10.
Rykman, Albert, 126.
“ Eunis, 126.
“ John, 126.

S

Saa, Harman, 88.
Sabin, David, 45.
Sager (see also Seager, Segar).
“ John, 80.
“ States, 22.
St. Clair, Jonathan, 194.
Sales, Ahab, 12.
“ Thomas, 12.
Salt Springs, 13.
Sample, Hugh, 46.
Sanders, (see also Saunders).
“ Mathias, 102.
Sandford, Ephraim, Junior, 152.
Sandwich, 171.
Sandwich, Town of, 42, 57, 137, 180.
Sarandac, Joseph, 112.
Saratoga, New York, 7.
Saunders, Henry, 52.
“ Mathias, 146.
Sayles (see also Sales).
“ Mordica, 6.
Scarlet, George, 185.
Scharmahorn, John, 96, 123 (2).
“ William, 92.
Scheifflin (Schieffelin), Jonathan, 43.
Schermehorn, John, 25.
Schofield, Thomas, 149, 180.
Scosel, James, 49.
Scott, Francis, 46.
“ John, 178.
“ Jonathan, 102, 128.
Scovell, Samuel, 133.
Scram, Frederick, 49.
“ Garret, 49.
Scripture, Jeremiah, 64.
Seager (see also Sager, Segar).
“ John, 57.
Sealey, Ludovick, 38.
Seaman, Caleb, Junior, 133.
Secor, Isaac, 52.
Secord, David, Junior, 30.
“ John, Junior, 172.
“ Silas, 29.
Secretary, 143.
See (see also Saa).
“ Leaney, 114.
Seeley (see also Sealey).
“ Rebecca, 31.
Segar (see also Sager, Seager).
“ John, 51, 57.
“ John, 123.
“ Sarah, 121, 123.
Seigniory de Point a Lorignac, 186.
Selby, Prideaux, 4, 23, 37, 39, 43.
Semmons, Abraham, 72.
“ David, 72.
Senian, Jonas, 58.
Sennott, Walter, 71.
Senseman, Gottlob, *et al*, 164.
Serjeant, Silas, 5.
Servos, Daniel, 5.
“ Nelly, 114.
Settlers under Nominees, 18.
Seymour, Benjamin, 58, 121.
Shaffer, Nicholas, 141.
Shank, Major, 151.
Shark, John, 51, 57.
Sharman, Margaret, 93.
Sharp, Conraut, 35.
“ Cornelius, 89.
“ George, 43.
“ Gilbert, 19.
“ Lieut. Guisbert, 90.
“ John, 46, 89, 122.
“ John, Junior, 88.
“ Peter, 19.
“ Richard, 94, 126.
Sharpe, John, 125.
Shaver (see also Shaffer).
“ Adam, 141.
“ William, 14.
Shaw, Hugh, 158.
“ Michael, 13, 15.
“ Corp. William, 21.
Shebard, William, 36.
Sheck, David, 165.
Sheehan, ———, 40.
Sheek, Mercy, 109.
Sheets, Catherine, 109.
Sheffield, Margaret, 109.
Sheiley, John, 190.
Sheldon, Gideon, 133.
“ Samuel, 133.
Shell, John, 166.
Shephard, Joseph, 178.
Shepherd, Samuel, 4.
“ William, 43.

Shepley, Hanah, 141.
" John, 141.
Sheriff, 155.
" William, 81.
Sherman, John, 149.
" Lemuel, 140.
" Prince, 132.
Sherwood, ———, 116.
" Lois, 77.
" Polly, 173.
" Reuben, 46, 178.
" Samuel, 85, 178.
" Samuel, Junior, 17.
" Thomas, 48, 164, 179.
Sheverdfeger, Samuel, 143.
Shevertfeger, Ludwick, 174 (2).
" John, 174.
Shibley, John, 81.
Shipbuilding, 115, 131.
Shipman, Daniel, Junior, 77.
" Daniel, Senior, 77.
" David, 77.
" Lydia, 76.
" Ravina, 76.
" Sarah, 76.
Shoeman, Baltus, 93.
" Christina, 93.
" Magdalen, 93.
Shook, Adam, 133.
" Philip, 133.
Short, R. T., 102.
Shorts, Catherine, 20.
Showers, Ann, 58.
Shults, Peter, 56.
Shumaker, Jacob, 160.
Shurtliff (see Shutiff).
Shutiff, Gideon, 190.
Sicker, John, 56.
Sickler, John, 63.
Sills, Conrad, 118.
" George, 25, 118.
" John, 19.
" Lawrence, 118.
Silver, Abner, 61.
" Daniel, 59, 61.
" Timothy, 62.
Simcoe, Lieut. Gov., 1, 49.
Simmerman, Henry, 52.
Simmons (see also Semmons).
" Elizabeth, 190.
" Henry, 74.
Simonds, John, Junior, 21.
Simons, Titus, 27.
Simpson, ———, 23.
" Alexander, 119.
" James, 25.
" Margaret, 26.
Simson, John, 64.
" Obediah, 64.
Sinckler, Samuel, 102.
Sinclair, Samuel, 162.
Singer, John, 12.
Singleton, Capt. George, 117, 118, 119.
" John, 146.
Size, John, 57.
Skinner, Isaiah, 102, 146.
Slaght, Henry, 12.
Slatter, William Tindall, 170.
Slingerland, Garret, 145.
" Tunis, 145.
Slingerlandt, Catherine, 58.
" Mary, 27.
Sloat, Michael, 54.
Sloot, Jemima, 81.
Slosen, Joseph, 133.
Sly, Joshua, 171.
" William, 134.
Slye, William, 66.
Smades (see also Smedes).
" Diana, 179.
" Joshua, 59.
" Luke, 59.
Small, Mrs. Eliza, 154.
" John, 10, 11 (2), 12 (3), 147, 154, 156, 157, 189.
Smedes, Joel, 46.
Smith, ———, 44.
" Abigail, 113.
" Abijah, 19.
" Amy, 81.
" Ann, 58.
" Ann, 81.
" Betsy, 70.
" Catherine, 124.
" Charles, 53.
" Cornelius, 67.
" Daniel, 19.
" Daniel, 66.
" David, 141.
" Hon. David W., 37, 68, 128, 148, 154, 155.
" David W., Junior, 156.
" Doctor, 3.
" Dolly, 166.
" Ebenezer, 66.
" Eleanor, 184.
" Elias, 147, 148, 160.
" Elias, Junior, 154.
" George, 26.
" Hannah, 92.
" Henry, 72, 134.
" Henry, Junior, 27.
" Isabella, 113.
" James, 160, 161.
" Jane, 95.
" Jehiel, 133.
" John, 26.
" John, 19.
" John, 134.
" John, 148.
" John, 153.
" Sgt. John, 76.
" Jonas, 54.
" Joseph, 15, 48.
" Margaret, 110.
" Margaret, 112.
" Moses, 16.
" Lieut. Peter, 17.
" Peter, 44, 122, 188.
" Peter, 139.
" Philip, 92.
" Richard, 70.
" Samuel, 16.
" Samuel, 83.
" Samuel, 172.
" Sarah, 111.
" Spencer, 136.
" Susannah, 92.
" Terence, 3 (2).
" Thomas, 44.
" Timothy, 133.
" William, 79.
" William, 136.
" William Kennedy, 11, 32.

Snellie, John Booth, 74.
Snetsinger, Christian, 104.
" Mathias, 111.
Snider, John, 136.
" John, Junior, 101, 189.
" John, Senior, 101.
" Mathew, 101, 190.
" Peter, 101, 190.
Snor, John, 36.
Snow, John, 5, 49.
Snuke, Godfrey, 16.
Snyder, Alexander, 45.
" Catherine, 114.
" Darcus, 190.
" Isaac, 90.
" Jacob, 114.
" William, 114.
Sole, Benjamin, 22.
" Joseph, 22.
" William, 22.
Solicitor General, 116.
Solomons, Levy, 109.
Soper, Edward, 134.
" John, 72.
" Leonard, 154.
" Levy, 132.
" Solomon, 132.
Sorel, 180.
Soules, Daniel, 170.
Souls, Aschsah, 169.
" Daniel, 169.
Sparding, John, 34.
Spargo, Benjamin, 173.
Sparham, Thomas, Junior, 85.
Spencer, Abner, 62.
" Andrew, 16.
" Augustus, 16.
" Hadeley, 86.
" Hazelton, 35, 91, 118 (2).
" Henry, 80.
" Jerusha, 184.
" John, 18.
" John, 59.
" Margaret, 50, 91.
" Patience, 86.
" Patient, 35.
Springer, Daniel, 38.
" John, 26.
" Kesia, 168.
" Sarah, 152.
Springfield, Joseph, 19.
Sprung, Gabrum, 64.
Squier, Ichabod, 53.
Stacker, Elizabeth, 90.
Stains, Job, 22.
Staker, Conrod, 76.
" Henry, 76.
Stanbury, Philip, 12.
Standiliff, Stambrough, P., 60.
Stanton, Eldridge, 63.
Stapleton, Elizabeth, 97.
" William, 97.
Stark, Jasper, 62.
Starts, Jacob, 55.
Statay, Bastion, 141.
" Mary, 141.
Stealey, Tobias, 117.
Stedman, Philip, Junior, 185.
Steel, Margaret Scott, 178.
" Mathew, 54.
" Sarah, 52.
Steele, Moses, 95.
Stegman, John, 4, 108.
Stephens, Abner, 60.
" James, 147.
Stephenson, Capt. Francis, 131.
Stevens, Abel, 65, 131 (2), 132, 133 (4), 134 (6), 136.
" Abel, Junior, 133.
" Abigail, 77.
" Abner, 135.
" Abraham, 134.
" Alfred, 132.
" Amy, 132.
" Betty, 133.
" Daniel, 133, 166.
" David, 134.
" Elijah, 12.
" Elisha, 132, 133.
" Eunice, Junior, 133.
" Henry, 133.
" Isaac, 133.
" Lanah, 95.
" Lydia, 134.
" Mary, 57.
" Mary, 77.
" Meriam, 134.
" Moses, 133.
" Penuel, 133.
" Roger, 133.
" Sarah, 134.
" Thomas, 132.
" Uriah, 133.
" William, 133.
Steward, Abner, 13.
Stewart, Archibald, 4.
" Thomas, 141.
Stickley, Christian, 149.
Stiles (see also Styles).
" Amy, 19.
" Selah, 19.
Stillwell, Lewis, 112.
Stinson, John, 55.
Stober, John, 125.
Stone, John, 13.
" John, 132.
Stoneburner, Christian, 109.
Stoner, John, 154.
Stookes, John C., 134.
Storm, William, 84.
Storms, Gilbert, 87.
" Henry, 87.
" Jacob, 87.
" Jeremiah, 52.
Story, Ephraim, 134.
" Mary, 77.
" Solomon, 31, 133.
" Stephen, 194.
Stoughton, Ann, 90.
" William, 75.
Stover (see Stober).
Stowbridge, Jemima, 85.
Stratton, John, 62.
Street, Samuel, Senior, 172.
" Samuel, 184 (4), 185 (11), 192, 193.
Stretch, Daniel, 88.
Stricker, Sampson, 55.
Strider, Charles, 75.
Strope, Gasper, 76.
Struthers, Janet, 181.
Stuart, Andrew, 59, 159.
" Ann, 159.
" Charles, 59, 159.
" George Okill, 59, 96.

Stuart, James, 59, 159.
“ James, 141.
“ Jane, 159.
“ John, 81.
“ Rev. John, 7, 59 (5), 121, 130, 159.
“ John, Junior, 59, 159.
“ Mary, 159.
“ Robert, 118.
Styles, Selah, 14.
Sullivan, John, 23.
Sumner, Benjamin, 44, 49.
Surphlet, Robert, 39.
Surveyor General, 18, 32, 33, 37, 162.
Surveys:
Adolphus, Town of, 39.
Hallowell, 64.
Hawkesbury, 33.
Huron Reserve, 193.
Mountain, 19.
Newcastle, 33.
Pickering, 33.
Presqu'isle, 33.
Prince Edward County, 64.
Richmond, 33.
Turkey Point, 127.
Surveys, Costs of, 1.
Sutherland, Alexander, 114.
“ Ann, 141, 142.
“ John Johnson, 114.
“ Joseph, 107.
“ Thomas, 114.
Sutton, John, 13.
Swanson, Magnus, 158.
Swardfeger (see Scheverdfeger, Swatfagar).
Swatfagar, Frederick, 28.
Swartout, Cornelius, 13.
Swayze, Isaac, 10, 12, 13 (2).
Sweet, Charlotte, 69.
Swort, Hanah, 168.

T

Talbot, Lieut. Thomas, 116.
Taylor, Agnus, 91.
“ Christine, 75, 141.
“ Christine, Junior, 75.
“ James, 79.
“ Corp. John, 75 (2), 118.
“ Mary, 75.
“ Nathaniel, 70, 126.
“ Nelly, 75.
“ Serjeant, 91.
Teeple, Lydia, 172.
Teirey, Francis, 179.
Teirs, Daniel, 131.
Templeton, Andrew, 98.
“ Mary, 146.
Tenbroeck, Peter, 128.
Tennery, Michael, 148.
Testis, Jacob, 45.
Thomas, Elizabeth, 26, 148.
“ Jacob, 132.
“ John, 50.
“ Squire, 26.
Thomps, Esther, 132.
Thompson, Archibald, 119.
“ Mrs. Elizabeth, 27, 94.
“ Emilia, 140.
“ George, 35.
“ James, 191.
“ Jane, 83.
Thompson, John, 13.
“ John, 27.
“ Magdalane, 96.
“ Samuel, 180.
“ Timothy, 27 (2), 124.
“ William, 93.
Thomson, Andrew, 5.
“ Archibald, 5 (2).
“ David, 5.
Thrasher, Zadoch, 74.
Throop, Dan, 47.
“ Daniel, Junior, 31.
“ Daniel, Senior, 31.
Thurber, John, 163.
“ Kelly, 163.
Thurbun, Joseph, 75.
Thurison, Lawrence, 162.
Tice, Christina, 171.
“ Gilbert, 171.
“ Mary, 182.
Tiffany, Gideon, 6.
Tindall, Sarah, 90.
Tindell, Sarah, 57.
Tisdel, George, 34.
Titus, William, 133.
Tivey, Thomas, 129.
Tongie, William, 13.
Tousack, Gasper, 57.
Tousley, Joseph, 69.
“ Rebecca, 76.
Towers, Jane, 179.
Townships:
Adolphustown, 16, 35 (2), 57, 58, 124 (5), 125 (2).
Alfred (Third), 129, 130.
Ameliasburg, 32, 73, 118 (2), 119, 120, 121, 122 (2), 124, 165.
Ancaster, 13, 168 (3), 192.
Barton (Eighth), 2, 6, 36, 38, 168 (2), 192.
Bastard, 131, 160.
Bertie, 168, 187.
Blenheim, 32, 49.
Burford, 36, 48, 49.
Cambridge, 171.
Camden East, 50, 120 (2), 121, 122.
Camden West (Third), 7.
Charlottenburg, 139.
Charlotteville, 29, 30, 35, 127, 173.
Clarence (York, Fifth), 129, 130.
Clinton (Fifth), 32, 145.
Cornwall, 106, 110, 130, 141, 187.
Cramahé, 59 (2), 63, 142.
Crowland, 13.
Cumberland, 130.
Darlington, 5 (3).
Delaware, 144.
Dorchester, 49.
Dover (First), 4, 19, 39.
Edwardsburg, 129.
Elizabethtown, 77, 81.
Ernesttown, 119 (2), 121 (5), 122 (5), 123 (4), 124 (2), 125 (2).
Etobicoke, 145, 148, 154, 167, 182.
Flamborough, 103.
Flamborough East, 37, 157.
Fredericksburg, 32, 82, 87, 117, 118 (4), 119 (2), 121 (3), 122, 123 (3), 124 (10).
Gainsboro, 10, 26, 168 (5), 184.
Geneva, 37.
Glanford, 26 (2), 49, 117.
Gloucester (First), 129 (2), 130.

Townships—*Continued*
  Grantham (Third), 9, 168.
  Haldimand, 39, 50, 59, 68, 95 (2), 102, 153 (2), 155, 162, 187.
  Hallowell, 121 (2), 122.
  Hamilton, 50, 57, 59, 65, 135, 187.
  Hawkesbury, 33, 186, 188, 193.
  Hope, 142, 143, 147 (4), 148 (2), 154 (2), 171, 172, 188.
  Kingston, 79, 83, 96 (2), 117 (3), 119 (4), 120, 121 (2), 122 (5), 123, 124, 125.
  Kitley, 67, 77, 111, 131.
  Lancaster, 194.
  Lansdowne, 65, 134.
  Leeds, 130.
  Loughborough, 82, 96, 117 (3), 120 (2), 121 (2), 125.
  Louth (Fourth), 9, 13, 28, 36, 57.
  Malden, 23 (3), 144, 179.
  Markham, 178.
  Marysburgh, 118 (3), 121 (4), 122 (4), 125 (2), 174.
  Montague, 48.
  Murray, 29, 35, 52, 58, 71, 115, 174.
  Newark (Niagara), 5 (2), 9, 49 (2).
  Osnabruck, 108, 138, 147, 148.
  Oxford-on-Rideau, 13 (2), 30.
  Oxford-on-Thames, 28, 34, 139, 149, 185, 190.
  Pickering, 33, 68.
  Percy, 59 (2), 61. 187.
  Pittsburg (Cataraqui), 85, 117, 118, 120 (2), 122, 130 (2), 174.
  Plantagenet, 129 (4), 130, 175.
  Raleigh (First), 142.
  Rawdon (Eighth), 33, 50.
  Richmond, 33, 119, 121, 123 (2), 124 (2).
  Roxborough, 130 (2).
  Saltfleet, 13, 33, 36, 138, 170, 192, 193.
  Sandwich, 143.
  Scarborough, 101.
  Seymour, 153.
  Sidney, 79, 119, 123 (2), 124 (2), 125 (2).
  Sophiasburg, 16, 121 (2), 122 (3), 124.
  Stamford, 13, 171.
  Thorold (Ninth), 36, 185.
  Thurlow, 73, 95, 118 (3), 120, 122, 180.
  Townsend, 10, 14, 45, 128.
  Vaughan, 178, 184.
  Wainfleet, 168.
  Walpole, 157, 161, 185.
  Walsingham, 5, 38, 41, 143, 158, 173.
  Whitby, 49.
  Williamsburg, 138, 187.
  Willoughby, 185 (8).
  Windham, 50.
  Wolford, 46 (2).
  Yonge, 48, 57, 78.
  York, 6 (2), 44, 95, 97 (2), 101, 102, 111, 128, 145, 146 (2), 155 (2), 170, 192.
  Zone (Fourth), 7.
Townships, Report on, 34, 42.
Trap, Richard, 104.
Tredwell, Nathaniel H., 71, 180, 183, 185, 188.
Tripp, Charles, 61.
  " Susannah, 182.
Trompeau, John, 16.
  " Paul, 165.
Trompour, John, Junior, 162.
  " Mary, 35.
  " Paul, 189.
Troyer, John, 41.
Truesdale, Ann, 47.
  " Daniel, 47.
Trumpour, Paul, 54.
Truts, Joseph, 116.
Tubbs, Daniel, 59.
  " Frederick, 60.
Tucker, Reuben, 48, 95.
Tuffie, Ensign Samuel, 38.
Turkey Point, 127.
Turner, Cornelius, 36.
  " David, 63.
  " David, Junior, 63.
  " Elias, 61.
  " John, 63.
Tutle, Eliphalet, 133.
Tuttle, Daniel, 179.
  " Dolly, 109.
  " Jeremiah, 37.
  " John, 45.
  " Peter, 178.
  " Solomon, 108.
  " Stephen, 57, 60.
Turney, John, Junior, 58.
  " John, Senior, 58.

U

Ulcoch, Andrew, 139.
Umstead, Israel, 47.
Underston, James, 137.
Urquahart, James, 40.

V

Valentine, Catherine, 187.
  " John, 187.
Valerant, Jaques, 69.
Vallé, Louis, 45.
Valleau, Peter, 55.
Valrant, Jaque, 92.
Van Alstine, Alexander, 20.
  " Ally, 83.
  " Cornelius, 53, 58.
  " Isaac, Junior, 21.
  " Isaac, Senior, 94.
  " Jane, 20.
  " Jonas, 20.
  " Lambert, 21.
  " Lambert, 94.
  " Lambert, Senior, 25.
  " Peter, 118, 121.
Vanatto, John, 60.
Van Blarrican, Abraham, 55.
  " Martines, 55.
Van Camp, Jenny, 78.
Vanderbarrack, Elizabeth, 82.
Vanderbarrow, Eve, 152.
  " Gilbert, 152.
Vanderlip, William, 23.
Vandusen, Mary, 111.
Van Every, Henry, 32.
  " McGregor, 32.
Vanhorn, ———, 153.
Van Leaven, Cornelius, 74.
  " John, 74.
Vannest, Varnadus, 90.
Van Order, Ann, 81, 122.
  " Elizabeth, 81.
  " Isaiah, 84.

Van Scot, Deborah, 75.
Van Sicklen, Sarah, 66.
Van Valkenburgh, Jacob, 89.
Van Vleck, Isaac, 159.
Van Waters, Cornelius 72 (2).
Van Wickley, Paul, 79.
Vanwyck, Samuel, 171.
Vardy, Thomas, 191.
Varty, Thomas, 87.
Vasburg (see also Vosburg).
" John C., 89.
Vaughn, Hercules, 62.
Vaughan, John, 60, 65.
Vent, Mary, 80.
Vignau, Capt. Joseph, 152.
Vollick (see Folluck).
Von Snell, John Frederick, 65.
Vosburg (see also Vasburg).
" John, 90.

W

Waddle, Francis, 97.
Wager, Ephraim (Everhart), 25.
" Thomas, 25, 92.
" William, 93.
Waggoner, Frank, 159.
" Jacob, 105.
" Mary, 104.
Wait (see also Weight).
" Reuben, 133.
Walker, Daniel, 74.
" Edward, 86.
" Henry, 22.
" Isaac, 13.
" James, 136.
" John, 13.
" Joseph, 74.
" Mary, 22.
" Ralph, 13.
" Welden, 88.
" William, 89, 124.
" William, Junior, 13.
Wallace, Aaron, 59, 63.
Wallis, Cornelius, 60.
" John, 60.
Walter, Philip, 177.
Walters, Pulina, 161.
" Ruben, 54.
Walton, Joshua, 171.
Wannamaker, Andrew, 72.
" Harmanus, 36.
" Jacob, 71.
" Peter, 72.
Ward, Charles, 178.
" George, 19.
" James, 16.
" John, 63.
" Major, 90.
" Moses, 16.
" Samuel, 16, 121.
" Thomas, 97.
" William, Junior, 16, 121.
Wardell, Michael, 48.
Warner, Conrad, 110.
" George, 110.
" Godfrey, 110.
" John, 86.
" Michael, Junior, 110.
" Seth, 134.
Warring, John, 63.
Warth, John, 141.
Warren, John (Prince Edward Co.), 127.
" John (Fort Erie), 187.
Wartman, Barnabas, 87.
" Barnabas, Junior, 125.
" Barnabas, Senior, 119.
" Eve, 82.
" Peter, 96.
Warwick, James, 22.
Washburn, Ebenezer, 85, 117, 121.
Waters, John, 86.
" John Spiers, 85.
Watson, Jeffrey, 136.
Way, Catherine, 91.
" Daniel, 161.
" Samuel, 84.
Wayne, General, 6, 45, 87, 88, 184.
Webster, Sarah, 30.
Weeks, ———, 176.
" William, 149.
Wees (see Wiss).
Weight, Benjamin, 62.
" Enoch, 64.
" Isaac, 62.
" Jenks, 62.
" Samuel, 67.
Weikle, George, 24.
Welch, Margaret, 163.
" Mary, 148.
" Thomas, 35, 148.
Wells, Rufus, 61.
" William, 96.
Wessell, Joseph, 54.
Wessells, Anne, 55.
" Nicholas, 52.
West, John, 29.
Westley, Charles, 142.
Wetheral, Rufus, 136.
" William, 136.
Wheaton, John, 136.
Wheeler, James, 96.
" Joram, 136.
" Nathan, 39, 185.
Whetecomb, Nathaniel, 51.
White, Augustus, 84.
" Charles Samuel, 97.
" Eleanor, 97.
" John, 68.
" Joseph, 69.
" Mary Ann, 97.
" Polly, 76.
" William Glendower, 97.
Whiting, Isaac, 128.
" J., 14.
Whitlock, Capt. John, 183.
Whitney, Billa, 94.
" Christopher, 61.
" Christopher, Junior, 60.
" Elijah, 77.
" Ruloff, 61.
Wickwire, Elizabeth, 77.
Wier, John, 13.
" William, 13.
Wilcocks, Hezekiah, 39.
Wilcox, Daniel, 57.
" William, 32.
Wildman, Ezra, 61.
Wilkins, Ann, 86.
" Capt. Robert, 86, 87.
" Robert Charles, 86.
" Sarah, 86.
Wilkinson, Eliza, 25.
" Lieut. Richard, 24, 37, 172.

Willcocks, Benjamin, Junior, 13.
“ Susanna Maria, 18.
“ William, 127, 156.
Willcott, Jonathan, 102.
“ Paul, 102, 178.
Willcox, Charles, 48.
“ Sebray, 95.
Williams, Albert, 118.
“ Armstrong, 191.
“ Beniah, 15.
“ John, 34.
“ Robert, 28.
“ Samuel, 15, 51.
“ Samuel, 62.
“ Sarah, 114.
“ William, 26.
Willson, John, 18.
“ Stillwill, 74.
Wilmot, Allen C., 68.
Wilsey, Cornelius, 101, 189.
“ John, 101.
“ Solomon, 101, 189.
Wilson, Andrew, 13.
“ Anna, 68.
“ Henry, 37.
“ James, 13.
“ John, 68.
“ John, 156.
“ John, Junior, 178.
“ John, Junior, 185.
“ Lois, 67.
“ Mary, 156.
“ Sarah, 156.
“ Thomas, 94.
“ William, 13.
Wiltse (see Wilsey).
Wimore, George, 172.
Wind Mill, 85.
Windecker, Sarah, 32.
Windicker, Henry, 8.
Wing, Amy, 78.
“ Gersham, 68.
“ Mathew, 77.
“ Rebecca, 76.
Winn, Abraham, 63.
“ Joseph, 63.
“ Semion, 63.
Winter, Christopher, 63.
“ Joseph, 36.
Winterbottom, Samuel, 5, 57, 79.
Wintermute, Eddy, 174.
Winters, James J., 194.
“ Obadiah, 194.
Wiss, Francis, 72.
“ Henry, 72.
“ John, 72.
“ Julian, 72.
Wood, Darkis, 165.
“ George, 79.
“ John, 132.
“ Nathaniel, 105.
“ Sarah, 106.
“ Thomas, 76, 165.
Woodcock, John, 124.
“ John, Junior, 93.
“ Mary, 92.
“ Nicholas, 89, 91.
Woodworth, Ezra, 61.
“ Solomon, 61.
Wooley, John, 77.
Worden, Walter, 64.
Worrin, David Bishop, 194.
Wright, Ann, 52.
“ Daniel, 51.
“ Gabriel, 13.
“ George, 62.
“ Margaret, 127.
“ Mary, 67.
“ Mary, Junior, 67, 84.
“ Rachel, 165.
“ Robert, 74.
“ Samuel, 143.
“ Wate, 93.
“ William, 52.
Wyatt, David H., 62.
“ Peter, 62.
Wychoff, Peter, 36.
Wycott, Francis, 28.
Yarnes, Mary, 90.
Yates, John, 133.
Yearns, Jason, 64.
“ William, 6.
Yeomans, Ann, 81.
“ Arthur, 54, 85, 86.

Y

Yonge Street, 5, 6, 69, 74, 98, 116, 126, 127, 139, 142, 155, 158, 169, 170, 177, 184, 185, 190.
Yorex, William, 86.
York, Town of, 6, 17, 18 (8), 34 (2), 36, 38, 44, 48, 49, 57 (2), 65, 67, 70 (4), 71 (5), 72, 74, 79 (2), 80, 83, 84(2), 91, 95, 96, 97 (2), 98 (2), 102 (8), 103 (4), 115, 116 (3), 126 (2), 127 (4), 128 (4), 129, 131 (2), 134 (2), 135 (5), 138, 139, 141(2), 145 (3), 146 (3), 147 (2), 148 (2), 149, 151 (3), 156 (3), 158 (6), 159, 160 (3), 165 (2), 170, 172 (10), 183 (2).
Youmans, Eliezer, 78.
Young, Elizabeth, 83.
“ Flora, 181.
“ Henry, 161.
“ Henry, 168.
“ Jacob, 41.
“ James, 55.
“ John, 114.
“ John, 185.
“ Mary, 162.
“ Peter, 22.
“ Peter, 22.
“ Robert, 156.
“ Robert, Junior, 171.
“ Robert, Senior, 171.
“ Stephen, 20, 52.
“ Susannah, 182.
Yourex (see also Yorex).
“ John, 86.
“ William, 124.

Z

Zearman, ———, 118.
Zufelt, Elizabeth, 53.

ONTARIO

REPORT OF THE
Royal Commission on the use of Radium and X-Rays in the Treatment of the Sick, Etc.

* * *

PRINTED BY ORDER OF
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SESSIONAL PAPER No. 41, 1932

* * *

COMMISSION

HENRY JOHN CODY, *Chairman*
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WALTER THOMAS CONNELL
ARTHUR R. FORD

Secretary

JOHN W. S. McCULLOUGH

* * *

TORONTO
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1932

To the Right Honourable The Administrator of the Government:

SIR:

Under authority of the attached Order-in-Council, dated the 29th day of May, 1931, the undersigned were appointed a Royal Commission to enquire into and report upon the use of radium and X-rays in the treatment of the sick, etc.

Your Commission begs to report as set forth in the following pages:

Copy of an Order-in-Council, approved by The Honourable the Lieutenant-Governor, dated the 29th day of May, A.D. 1931.

Upon the recommendation of the Honourable the Prime Minister, the Committee of Council advise that pursuant to the provisions of *The Public Enquiries Act*, Chapter 20, R.S.O. 1927, a Commission be issued under the Great Seal appointing the Honourable Dr. Henry John Cody, of the City of Toronto; Professor John Cunningham McLennan, of the City of Toronto; Dr. Walter Thomas Connell, of the City of Kingston, and Mr. Arthur Ford, of the City of London, to enquire into and report upon:

1. The use of Radium and X-rays for the treatment of the sick;
2. The advisability of the Province securing a supply of Radium for the above purpose;
3. The advisability of the Province establishing a radium emanation plant with the necessary laboratories, etc.
4. The advisability of establishing a cancer research department;
5. The advisability of establishing a cancer institute;
6. The advisability of establishing cancer clinics;
7. The advisability of adopting plans and methods for educating the public with respect to the prevention of cancer;
8. And generally any matter or question arising out of the subjects referred to the Commission, and which in the judgment of the Commission calls for investigation and consideration.

The Committee further advise that the said Honourable Dr. Cody be appointed Chairman of said Commission.

And the Committee further advise that the Commission contain provision conferring power upon the Commissioners of summoning any person and requiring him to give evidence on oath and to produce such documents and things as the Commissioners may require for the full investigation of the matters into which they are appointed to examine.

Certified,

CONTENTS

Page

INTRODUCTION 7

CHAPTER ONE:

Investigations of the Uses of Radium and X-rays in Treatment of the Sick, and Organization for Cancer Control 9

SECTION I. INVESTIGATIONS IN CANADA:

Province of Ontario: Toronto General Hospital—radio-therapeutic equipment, statistics of cases treated by radium and X-rays, records and social service. General Conferences—Kingston, London, Toronto, Ottawa, Peterborough; Kingston General Hospital—statements of Dean Etherington, Dr. James Miller, Dr. J. Wylie, Dr. W. A. Jones; London Radiological Clinic—Cancer Committee, radio-therapy in the hands of Drs. George McNeill and Ernest Williams—Need of education in respect to cancer—Statements of Drs. Moir, McCrae, Arnott—Research at the Institute of Public Health by Drs. Campbell and Johns; Toronto—Statements of Drs. L. J. Austin, Oskar Klotz, George Wilson, George Young, Harris McPhedran, Alexander Primrose, T. C. Routley, F. A. Clarkson, F. C. Harrison, G. J. Gillam, E. S. Hicks, W. F. Langrill, W. J. Deadman, A. E. Walkey, W. Bethune, Herbert A. Bruce, Frederick W. Marlow, G. E. Richards, Gordon Bates, A. C. Hendrick—Small quantities of radium in private hands in Ottawa, Peterborough and other places. Province of Quebec: Montreal—details of equipment for radio-therapeutic work in Montreal General Hospital, Royal Victoria Hospital, Radium Institute 11

SECTION II. INVESTIGATIONS IN THE UNITED STATES OF AMERICA:

Summary of required medical service for cancer. Buffalo—The State Institute for the Study of Malignant Disease—radio-therapeutic equipment—4-gramme bomb of radium in use—facilities for research—library and record system—follow-up service. Boston—Massachusetts, a small and rather thickly populated State—holds pre-eminent place in public health and cancer work—has a high cancer rate—special facilities for cancer cases at Pondville—details of equipment—frank discussion of cancer with the public favoured. New York—Bellevue Hospital—special cancer hospital in Manhattan—another in Brooklyn—custodial hospital on Welfare Island—Mount Sinai Hospital—nine special cancer clinics in city—research at Columbia University and Rockefeller Institute—Memorial Hospital, Dr. Douglas Quick, Dr. James Ewing, Dr. Burton J. Lee. Philadelphia—The Graduate School of Medicine of the University of Pennsylvania—Dr. Ellice McDonald—laboratories in Oncological Hospital and Philadelphia General—Philadelphia Cancer Hospital at Ambler—the Skin and Cancer Hospital and Jeanes Hospital—Philadelphia General Hospital, Dr. J. B. Carnett—Baltimore—Dr. Howard Kelly—Johns Hopkins Hospital, Drs. Bloodgood and Geschickter—education of public and doctors—Dr. Thomas S. Cullen. Chicago—Tumour Clinic-Michael Reese Hospital—Dr. Max Cutler—Cancer Laboratories of the Otho S.A. Sprague Memorial Institute—Maud Slye—cancer heredity—experiments with mice. Rochester, Minn.—Mayo Clinic—Dr. H. H. Bowing—Worrell Hospital—Radium Institute—Dr. A. U. Desjardins—Curie Hospital—Dr. Donald Balfour—suggestions for Ontario 19

SECTION III. INVESTIGATIONS IN GREAT BRITAIN:

Imperial Research Cancer Fund—Medical Research Council—British Empire Cancer Campaign—Capt. E. J. C. Chapman, M.C.; Sir George Newman, Chief Medical Officer at Whitehall; Lieut.-Col. H. B. Smallman, C.B.E., D.S.O., M.D. London—National Radium Centres—National Radium Trust and Radium Commission—Middlesex Hospital, Mr. W. Sampson Handley, Mr. Victor Bonney, Dr. Douglas Webster, Mr. A. W. Windeyer—The Radium Institute, Mr. Ward—Mount Vernon Hospital, Northwood—Sir Cuthbert Wallace—The Westminster Annex, Hampstead, Mr. Stanford Cade—"bomb" of 4-grammes—Fulham Road Cancer Hospital, Prof. J. M. Woodburn Morison, Mr. R. H. Jocelyn Swan—The London Hospital, Dr. Arthur Burrows, Dr. Thos. Lumsden's original views—Manchester—the Radium Institute—Christie Cancer Hospital—Liverpool—Prof. W. Blair Bell—Aberdeen—Prof. Catto—Royal Infirmary—Dr. Evans—Prof. J. J. Macleod—Edinburgh—Royal Infirmary—Prof. Sidney Smith, Dr. Thomson 29

CONTENTS

CHAPTER ONE.—*Continued.*

SECTION IV. INVESTIGATIONS IN EUROPEAN COUNTRIES:

France—Calvaries—Paris—The Radium Institute—Mme. Curie—Prof. Cl. Regaud—use of irradiation—Columbia paste for moulds—emanation plant—Radium Institute, Villejuif—Dr. Simone Laborde—use of 2-gramme bomb—Prof. Gustave Roussy. Belgium—"The National League against Cancer"—Mr. Willem Schranen—Brussels—The Surgical and Radiological Institute, Dr. Felix Sluys—The Brugmann Hospital—Louvain—Institute St. Raphael—Dr. Maisin—Germany—cancer institutes at Berlin, Heidelburg, Hamburg—Berlin—Charité Hospital, Professors Cramer and Magat—University Polyclinic, Prof. Dr. Blumenthal, Prof. Halberstadter—The Kaiser Wilhelm Institute for Zellphysiologie—Prof. Otto Warburg—Hamburg—Cancer Institute, Prof. Dr. Holthusen—Frankfort—The Institute—Prof. Dr. Holfelder—one of best equipment of X-rays in the world. Sweden—Dr. Gösta Forssell—Stockholm Radiumhemmet—Gothenburg and Lund—free treatment to those unable to pay—railway fares paid—Dr. Ellis Berven—trained radiological personnel—pamphlets sent out annually, also almanacs—Denmark—Radiumstation—Dr. Jens Juul, Copenhagen—centres at Odense and Aarhus—Finsen Hospital.................................... 37

CHAPTER TWO:

Prevalence of Cancer, including its Aetiology, Distribution and Character............ 47

Alarming increase in cancer mortality in Ontario—increase in cancer incidence and mortality—incidence in relation to mortality—age and sex distribution of cancer—lymph-stasis theory of the cause of cancer—precancerous conditions................ 47

CHAPTER THREE:

SECTION I. TREATMENT OF CANCER:

Site of growth—type of cancer—stage of growth—resources available for treatment—surgery—radio-therapy—radium—the bomb—sources of radium—X-rays........... 53

SECTION II. USES AND LIMITATIONS OF RADIO-THERAPY:

(Richards, Canadian Public Health Jl., July and August, 1931.).................... 61

SECTION III. CONDITIONS NECESSARY FOR CARRYING OUT SATISFACTORY RADIO-THERAPY IN CANCER:

The views of Dr. Gösta Forssell, Director of the Radiumhemmet.................... 65

SECTION IV. RESULTS OF TREATMENT OF CANCER:

Cancer of the breast—cancer of the uterus—cancer of the mouth, nose and throat—cancer of rectum—cancer of the bladder—brain tumours—sarcoma and lymphosarcoma—cervix of the uterus—extract by Porter—discussion by Dr. John Fraser—figures by Mr. Victor Bonney—future of radio-therapy discussed by Prof. Forssell (1929) tables of cures—tables indicating comparative results of radiological and surgical treatment of malignancy in Sweden—review by Professor Hartmann. Carter and Cromarty, Brandon, Man... 71

CHAPTER FOUR. RESEARCH IN CANCER:

Clinical and fundamental—Lumsden's anti-cancer serum—Maisin, Cramer and Magat, special tissue extracts—Blair Bell working with lead—mule spinners' cancer—tar—cell-physiology—spontaneous cancer in mice—growth in vitro of cancerous and normal tissues—quotation by Dr. Ellice McDonald—Susman of Manchester—Gye and Purdy of London—Dr. F. G. Banting and Miss S. Cairns, Toronto—Rous chicken sarcoma... 85

CHAPTER FIVE: CANCER EDUCATION AND SOCIAL SERVICE ORGANIZATION:

Education of the public—education of the physician—social service organization...... 93

CHAPTER SIX:

Conclusions.. 97

CHAPTER SEVEN:

RECOMMENDATIONS.... 103

CHAPTER EIGHT:

APPENDIX A. STATISTICS OF CANCER MORTALITY:

Ontario, Canada, England and Wales, Australia, United States, Denmark, Holland, Switzerland, Norway, Sweden, Russia, Finland, Germany, France, Bulgaria, Czechslovakia, Luxembourg, Hungary, Italy, Scotland, Esthonia, Spain, Portugal, India.... 107

APPENDIX B. INDUSTRIAL OR OCCUPATIONAL CANCER:

Work in tar and pitch; mineral oil or paraffin; arsenic; X-rays and radium; work in mines; chimney-sweeps' work; work in aniline dyeworks.... 135

APPENDIX C. CANCER ORGANIZATION:

Australian cancer organization—Radium centres—diagnosis and research—Australian results of treatment.... 139

APPENDIX D. X-RAYS AND RADIUM:

Roentgen or X-rays—the production of high voltages for the excitation of X-ray tubes—the physical nature of X-rays—X-ray spectra—the quality of X-rays—measurement of intensity of X-rays—radium—nature of radium—radio-activity—radium rays—quantitative measurements and standards—Radium emanation—unit of measurement—advantages and disadvantages of the use of radon—radium salts—active deposits—dosage, present methods—X-ray and radium protection—international recommendations for X-ray and radium protection—estimates of radium required—an emanation plant, equipment of active-treatment centres at London and Kingston, and Toronto centre—specifications for radium—variety of technique—different methods of treatment with radium—specifications for radium for Michael Reese Hospital, Chicago, Ill. (Cutler).... 143

INTRODUCTION

Your Commission was organized early in June, 1931, and pursued its enquiry as directed by Order-in-Council, first in Ontario, then in the United States, in the British Isles, and in European countries. Subsequently further investigation was made in the United States and in other parts of Canada. Finally there were meetings with medical bodies and individual medical men at various points in Ontario.

Because departmental control of both the prevention and the cure of disease is under the Department of Health, the Minister of Health, Hon. J. M. Robb, M.D., accompanied the Commission, and Dr. J. W. S. McCullough, Chief Inspector of Health, acted as Secretary.

While the studies of the Commission were largely directed to observing the curative effects of radium and of the diagnostic and curative capabilities of X-rays, opportunity was taken to enquire into all sides of the problem of cancer control in the countries visited.

In comparing the work of cancer control, organization and treatment in Ontario with that carried on elsewhere, it soon became apparent to the Commission that while the clinical results in our own Province were excellent and quite equal to those found elsewhere, the facilities for such work outside surgery were quite inadequate. While the largest hospital in Ontario has but two high-voltage X-ray machines and less than half a gramme of radium (in 1931 the Toronto General Hospital added half a gramme) some clinics seen by the Commission in the United States, the British Isles, and in Europe have eight or more grammes of radium and from six to eight high-voltage X-ray machines. It is obvious that in order satisfactorily to meet our situation in Ontario larger and better facilities for radio-therapy must be provided.

In most of the countries visited there were found centres for cancer treatment with well-equipped staffs of pathologists, radiologists, physicists, physicians and surgeons, all trained to collaborate. Ample opportunity also was provided for the education of trained personnel and of medical students.

The story of delay in seeking advice for cancerous conditions on the part of the masses of the people was constantly impressed upon the Commission at every stage of its investigation. Everywhere were found attempts to meet this situation by organized campaigns of public education and by the better training of medical students and of those proposing to specialize in this branch of medical science.

The necessity of following up cases was similarly emphasized. In every clinic an elaborate record of cases is kept. The utmost pains are taken to keep in touch with patients and to bring them back to the place of treatment for observation at regular intervals over a period of years until all possibility of the return of the disease is past. Since prevention is as needful in the case of cancer as it is in the case of other diseases, the preventive side is on all hands receiving the closest attention.

INTRODUCTION

As your Commission proceeded with its enquiry it felt increasingly the importance and urgency of the work on which it was engaged. During the last century medicine has won signal victories over many diseases. An analysis of these successes reveals that, until recently, most of them were connected with disorders directly attributable to parasitic micro-organisms. It is to the prevention of germ-caused diseases that the fall in our deathrate is chiefly due. But, as has been aptly said, "of all the maladies which continue to defy aetiological explanation and consequently, effective therapy, cancer is probably the most important, as it is certainly the most puzzling." If no remedy is found for it and the toll of death it levies on mankind is not reduced, at least one in ten of the adults now alive will sooner or later fall victims to it. It is no respecter of persons, yet those who have devoted their lives to its study are not yet agreed as to its actual cause. Never has the problem of the nature and cause of cancer been more widely and scientifically attacked than to-day. The surgeon and the radiologist are collaborating with increasing success in its treatment; and throughout the whole world of cancer research there blows a new air of hope and expectancy.

While it is impossible in a report of this nature to express the Commission's thanks to the many individual authorities to whom it is indebted for an enormous amount of information and literature, it may be sufficient to say that the members of the Commission met everywhere with unvarying courtesy and the utmost desire to facilitate their enquiry.

In the United States, Great Britain, France, Belgium, Germany, Sweden and Denmark, as well as in our own country, the local authorities afforded every opportunity to study the work in cancer in which they were engaged.

With great pleasure the Commission records these facts, and expresses its deep sense of obligation to those who thus aided in lightening its labours and in bringing within its reach all the information available on the subject.

Notable assistance was given to the Commission by the Hon. G. Howard Ferguson, Canadian High Commissioner, London; the Hon. Philippe Roy, Canadian Minister to France, Paris; Mr. Wm. C. Noxon, Agent-General for Ontario, London; M. J. J. Guay, Canadian Trade Commissioner, Brussels; Dr. C. N. Arpin, representative of the Dominion Department of Health, Antwerp; Prof. Errol Boucher, Paris; Mr. W. H. Ingram, the well-known journalist, Paris, and by Capt. F. A. Stewart, Agent for Ontario in Glasgow.

Your Commission gladly records its appreciation of the faithful and highly efficient service rendered by the Secretary, Dr. J. W. S. McCullough, Chief Inspector of Health for the Province. By his long experience of the problems of public health, by his careful study of the literature on the whole subject of cancer, by his wide correspondence with experts in this field, by his collection of material, and by his careful arrangements for the investigations made in different countries, he has given signal help to the Commission at every stage of its work. His services were placed at the disposal of the Commission by the Provincial Department of Health.

CHAPTER ONE

INVESTIGATIONS OF THE USES OF RADIUM AND X-RAYS IN TREATMENT OF THE SICK, AND ORGANIZATION FOR CANCER CONTROL

Section I

INVESTIGATIONS IN CANADA

CANADA

Investigations in the Provinces of Ontario and Quebec

Ontario, Canada

Radiological treatment of cancer in Ontario is confined to a few hospitals but is supplemented by the use of radium and X-rays in the hands of private practitioners.

The Toronto General Hospital

The most important organization in Ontario for radio-therapeutic treatment is that of the Toronto General Hospital, under the directorship of Dr. G. E. Richards.

The X-ray therapy department was organized in 1918. At this time, X-ray therapy generally was limited to apparatus capable of operating at a maximum of 100,000 volts and this was the type of apparatus then installed.

In 1919, a machine was assembled capable of delivering 120,000 volts, and with this favourable results were obtained sufficient to convince the director of the value of the so-called high voltage method.

In 1920 special apparatus was purchased for the purpose of more accurate measurements of X-ray dosages. This apparatus included (1) a spectrometer measuring the wave length of X-rays; and (2) a quadrant quadrimeter, in reality an electroscope, making use of the ionization chamber method of X-ray measurement.

In 1921 a suitable equipment became available in America and the first high-voltage machine was then installed in this department. This was capable of delivering 200,000 volts. During the next year a second machine was installed having a maximum capacity of 300,000 volts, although this has never been operated at a higher voltage than 250,000 and the usual operation is at 210,000.

The first radium was purchased in 1921, and since that time has been added to year by year as the work has grown, until at the present time the Department has a total of about 900 milligrammes of radium in the form of element. Radium emanation is not used.

The daily attendance in the radiological service averages 190 patients throughout the year, thirty being cancer cases for therapy, or reporting for observation. This does not include cancer cases in the wards of the hospital in the respective services.

The radium work in the department has generally followed the European, particularly the French School, rather than the American School, probably owing to the fact that the practice of the former was believed to be based on sounder work and attended by better results and partly to the fact that the personnel was limited to the use of radium applicators containing the element and did not have access to radium emanation except by purchase at prices almost prohibitive.

In 1928 recommendation was made that plans be prepared for an enlarged radiological service. This included the purchase of an additional gramme of radium, an emanation plant, a more powerful X-ray apparatus for therapy, and centralization of cancer patients who were receiving radium treatment in special beds set aside for the purpose.

These plans were approved by the members of the hospital staff and accepted by the trustees of the hospital, and it was planned to proceed with them early in the fall of 1930. For this purpose the building formerly occupied by the department of pathology in the University of Toronto was purchased from the University by the trustees of the hospital and set aside by an arrangement which would provide approximately fifty beds for this service.

From the very inception of this work no suitable case has ever been refused treatment because of the patient's inability to pay for the service.

The following statistics indicate the growth of the department and of its activities:

NUMBER OF RADIUM CASES TREATED SHOWING PERCENTAGE OF FREE TREATMENTS

	Total Number of Cases	Pay	Free	Percentage of Free Cases
October 1st, 1921 to September 30th, 1922.........	494	368	127	25.65
October 1st, 1922 to September 30th, 1923.........	670	509	161	24.03
October 1st, 1923 to September 30th, 1924.........	758	570	188	24.80
October 1st, 1924 to September 30th, 1925.........	828	408	220	26.57
October 1st, 1925 to September 30th, 1926.........	915	675	240	28.23
October 1st, 1926 to September 30th, 1927.........	896	603	293	32.70
October 1st, 1927 to September 30th, 1928.........	965	709	256	26.53
October 1st, 1928 to September 30th, 1929.........	845	561	284	33.61
October 1st, 1929 to September 30th, 1930.........	1,203	897	306	25.44
October 1st, 1930 to September 30th, 1931.........	1,321	913	408	30.88

NUMBER OF HIGH VOLTAGE X-RAY CASES SHOWING PERCENTAGE OF FREE TREATMENTS

	Total Number of Cases	Pay	Free	Percentage of Free Cases
October 1st, 1921 to September 30th, 1922.........	553	426	107	19.35
October 1st, 1922 to September 30th, 1923.........	626	475	151	24.12
October 1st, 1923 to September 30th, 1924.........	615	479	136	22.11
October 1st, 1924 to September 30th, 1925.........	690	512	178	25.79
October 1st, 1925 to September 30th, 1926.........	587	474	113	19.25
October 1st, 1926 to September 30th, 1927.........	665	491	174	26.17
October 1st, 1927 to September 30th, 1928.........	716	513	203	28.35
October 1st, 1928 to September 30th, 1929.........	897	697	200	22.30
October 1st, 1929 to September 30th, 1930.........	702	531	171	24.36
October 1st, 1930 to September 30th, 1931.........	897	658	239	26.65

The records, of the standard League of Nation's type, are well kept, and endeavour is made to maintain an effective social service. The director is of the opinion that if provision were made for the free transportation of poor patients, there would be a decided improvement in the final results of treatment.

General Conferences

At conferences held in Kingston, London and Toronto opportunity was given for the expression of opinion before the Commission by the representatives of medical bodies, individual practitioners and others; and other conferences were held in Ottawa, Peterborough, etc., with individual practitioners or groups of clinicians.

KINGSTON

The *Kingston* General Hospital has no radium, but ninety milligrammes owned by the Dean of the Medical Faculty are always available for use. The X-ray plant comprises one 140-kv. machine and three for diagnosis. There are eleven beds available for cancer cases.

Dean Etherington of the Medical Faculty in his remarks emphasized the need of (1) better education of the medical practitioner; (2) close follow-up of cases; (3) close oversight of surgical work done in hospitals with a view to improvement.

Dr. James Miller, the Professor of Pathology, spoke of the possible value of the use of glandular extracts in cancer and of the necessity of securing more reliable statistics. He praised the systematic free examination of pathological growths maintained by the Department of Health.

Dr. J. Wylie, the Professor of Preventive Medicine, made a plea for the establishment in Kingston of a Cancer Research Institute, to comprise division of treatment, diagnosis, experimental research and statistics. He also suggested a survey radiating from Kingston in order to ascertain the incidence of cancer and the results of treatment, etc.

Dr. W. A. Jones, the Director of the Radiological Department, presented a statement of the physical requirements of the hospital for effective radiological treatment.

LONDON

At the *Radiological* clinic in London, radium is used by the high intensity short-period method. There is a cancer committee comprising the chiefs of surgery, gynaecology, pathology, and radiology, of which Dr. George McNeill is chairman, who decide the line of treatment in important cases. Radio-therapy is in the hands of Drs. George McNeill and Ernest Williams.

It was suggested that education in respect to cancer is much needed by both the medical profession and the public; the latter should be instructed in simple methods of prevention.

Dr. Moir of Hensall advocated the establishment of twelve clinics for diagnosis and treatment in Ontario; he thought it a hardship for patients to travel great distances for treatment; he also advocated the appointment of a travelling radiologist for the purpose of co-ordinating cancer work in the centres.

Dr. McCrae of Brussels advocated the organization of local clinics near the people's homes; he thought people were afraid to go to the large city clinics.

Dr. David Arnott appeared as the advocate of the use of Koch's serum which he employs in the treatment of cancer.

At the Institute of Public Health, which is one of the chain of Ontario Public Health Laboratories, a most interesting piece of research work on cancer by Drs. Campbell and Johns is under way. At the moment the developments are not complete enough for publication.

TORONTO

At the Toronto conference, representatives of the Academy of Medicine, the Canadian and Ontario Medical Associations, the University Faculty of Medicine, as well as many practitioners not only from Toronto but also from Hamilton, Brantford and other places, were heard. In addition, a few private individuals expressed their views. While there was considerable diversity of opinion in respect to the character, designation, location and scope of the proposed organization for treatment by radio-therapy, all were agreed as to the need of research in respect to cancer, of skilled personnel in its treatment, and of better education for both doctors and the public.

Perhaps as significant a statement as any was that made by Dr. L. J. Austin, President of the Ontario Medical Association, who said that medical men in Ontario who have an opinion on the subject of radio-therapy may be divided into three groups:

1. Those who say that patients are made much worse by the use of radium and X-rays. In his opinion this view is not to be taken very seriously.
2. Those who advocate active-treatment clinics in each of the three university centres, the staff to be appointed by the respective universities.
3. Those who say that every city of 20,000 or over should have its own cancer treatment clinic. These, in his opinion, represent a large majority of the profession.

The President thought that a very intensive training in radiology is necessary, and, personally, is absolutely in favour of a limited number of centres.

As it is impossible in the space available in this report to give the complete addresses of the speakers at the conference it may suffice to quote some of the most salient remarks of each speaker.

Dr. Oskar Klotz, Professor of Pathology, University of Toronto, said: "Control of cancer depends upon co-operation of the laboratory and the doctor—the Government would be well advised to spend money on research; close association of cancer treatment with the University and Medical Faculty is essential."

Dr. George Wilson, Surgeon-in-Chief, St. Michael's Hospital: Had no objection to the name "Cancer Institute." He thought there should be active treatment centres in Toronto, London, and Kingston, controlled by the Government, provided with a first-class staff of whole-time men, and including facilities for research. The head of the "Institute" should preferably be an "Internist."

Dr. George Young, speaking for the Academy of Medicine: Would call the treatment centre a "Radio-therapeutic Institute" which should be in a separate building with its own staff, and closely linked up with the Physics Department. The Institute (in Toronto) should be used for diagnosis, treatment, research and for the supplying of radium to other approved centres.

The views of Dr. Harris McPhedran, President of the Academy of Medicine, coincided very largely with those of the previous speaker. Like the latter, he emphasized the value of improved professional training and public health education and close co-operation of all services in the interest of the patient.

Dr. Alexander Primrose, Dean of the Faculty of Medicine, agreed with Dr. Klotz in respect to the need for research and skilful diagnosis, but he was very strongly of the opinion that no diseases except infectious ones should be segregated. He thought that a cancer institute should be a part of a general hospital. In his opinion the interest of the patient was supreme; no single service or individual should dominate. Co-operation of the entire group was essential in the successful treatment of cancer.

Dr. T. C. Routley, the Secretary of the Ontario and Canadian Medical Associations, enquired why cancer or other disease should be set apart for treatment in separate instititutions. "Are we," he asked, "to have a separate hospital or institute for each disease? Plants such as general hospitals with laboratories exist in Ontario, why should these be duplicated at great expense?" He opposed a separate cancer institute to be managed by the Government and advocated the use of existing hospitals.

Drs. Clarkson, Harrison and Gillam, representatives of the Radium Institute, Toronto, emphasized the need of early diagnosis, of adequate training of personnel in radiology, and expressed satisfaction with the proposal of the organization of a cancer institute by the Government.

Dr. E. S. Hicks and other representatives of a group clinic in Brantford detailed their equipment, and gave statistics of their fifteen years' work in radiology. They had no objection to the organization of a cancer institute, and would welcome the establishment of an emanation plant from which radon (seeds) would be supplied to reliable radiologists.

Drs. Langrill, Deadman, Walkey, and Bethune, representing the Hamilton General Hospital, were of the opinion that most of the Government money available should be spent on research, that an emanation plant should be established, and that cancer clinics should be associated with approved general hospitals.

Dr. Herbert A. Bruce favoured the organization of one central institute for the main activities of cancer work in Toronto, with radium and an emanation plant, research laboratories, physical and pathological laboratories, and facilities for treatment by surgery and radiology. There should be a Radium Trust, responsible for funds, purchase of radium, etc., and a Radium Commission to decide what institutions should be given radium. He advocated many diagnostic clinics and a limited number of treatment centres. He was of the opinion that a cancer institute should be an entity by itself. He favoured research and thought the institution should be called a Hospital for Diagnosis and Treatment of Malignant and Other Diseases, and have about fifty beds for cancer patients. Dr. Bruce referred to the offer formerly made by him of the Wellesley Hospital for the purpose of a cancer institute. This offer, because of strong objections raised by the friends of the hospital, had been withdrawn.

Dr. Frederick W. Marlow advocated the organization of a Central Institute which might be called Ontario Research Hospital, with research laboratories, provision for 100 beds, and facilities for diagnosis and treatment of cancer. The functions of such institute should in his opinion, be research, post-graduate work, diagnosis and treatment. It should not be established in connection with any existing hospital and should receive public ward patients only. He saw no objection to such an institute in a wing of a large hospital, but it should be a separate unit and independent of the university.

Dr. G. E. Richards, the Director of Radiology, Toronto General Hospital, believed that the surgical treatment provided in Ontario was quite as good as that found elsewhere. He pointed out the need of better equipment in X-rays and radium. He advocated a cancer clinic in a general hospital, citing that of the Philadelphia General Hospital as a successful example. He was opposed to the development of too many treatment centres, and pointed out that Great Britain (with twelve outside London) had too many. He was favourable to research but thought that skilful diagnosis and treatment should be the chief objects. He believed that fifty beds were sufficient in a Toronto clinic, since of the 1,800 cases of cancer treated in the Toronto General Hospital last year, only one-third were hospitalized. Dr. Richards suggested the name "Radiotherapeutic Centre" or "Radiological Institute."

Dr. Gordon Bates, the Secretary of the Canadian Social Hygiene Council, laid stress upon the value of public education in cancer. He advocated a policy of speaking plainly to the public on this subject since knowledge drives away fear. "We should fear the beginning not the end of cancer. In all forms of cancer, fear of the disease comes too late." He pointed out the various means whereby the public may be educated in health matters and offered the facilities of his organization for this purpose.

Dr. A. C. Hendrick pointed out the great need of research in cancer, and suggested that surgical treatment in this affection has almost reached its limits. While irradiation was most useful in treatment, new methods must be looked for. The problem should be approached through the blood stream. Dr. Hendrick and Prof. Burton are now engaged in experimentation on inoperable cases with a colloidal solution of arsenic.

Interviews with individual practitioners in Ottawa, Peterborough and other places, revealed that in these places there were small quantities of radium in private hands or in group clinics.

Montreal

Radio-therapeutic work in Montreal is carried on chiefly in the Montreal General and Royal Victoria Hospitals and in the Radium Institute.

In the Montreal General Hospital there is one director for radium and another for X-rays. The hospital has seven-tenths of a gramme of radium—all in element, and everyone is given treatment whether able to pay or not. The funds for radium were supplied by a local donor. There is an excellent record system. Follow-up of cases is carefully carried out through a social service and by means of letters to patients.

From April, 1930 until September 16th, 1931, 473 new cancer patients were treated. Good results were claimed in cancer of the cervix of the uterus, in surface cases and those of mouth and throat. The method of low intensity and long period is followed. There is one 200-kv X-ray machine and one for diagnosis. The X-rays are used in breast cases before and after operation. There is a radio-therapy committee, comprising the heads of the hospital services, which has custody of the radium and assigns the cases to the proper quarter. The radiologist does not use the radium in cases belonging to other services. In spite of the rather cramped quarters, there is evidence that careful work is being carried on.

Drs. Henry and Ritchie have charge of radium and X-ray work respectively.

The Royal Victoria Hospital has one-half a gramme of radium and an additional twenty milligrammes were being received at the time of our visit. There is one 200-kv X-ray machine. The quarters are excellent and a large number of cases are treated. Preference is given to the low intensity long period plan of treatment by radium. There is no emanation. The Director, Dr. A. Howard Pirie, says the initial results of radium treatment are remarkable but he is most cautious as to the final results. In both forms of irradiation, the usual methods are pursued. Surface, buccal, throat and uterine cervix cancers seem to be greatly benefited. The record and follow-up system is excellent. Very fine work seems to be done in this clinic.

The Radium Institute of Montreal, under the direction of Dr. E. Gendreau, and associated with the University of Montreal, has twenty beds, one and one-quarter grammes of radium, of which one-half gramme is in solution, one 300-kv. machine with two tubes and one 200-kv machine with three tubes.

There is a large outdoor clinic and a small pathological department with a promise of better quarters as soon as the large new university buildings on the north side of the mountain are completed. The record and follow-up system is excellent, showing ninety per cent. return of patients at intervals of three, six and twelve months for five years. In case of the poor, transportation is paid.

Radium element is used in cancer of the uterine cervix along with the external use of X-rays, the latter being used before and after operation in suitable cases.

Section II

INVESTIGATIONS IN THE UNITED STATES OF AMERICA

MEDICAL SERVICE FOR CANCER

In 1927 the American Society for the Control of Cancer appointed a committee of prominent physicians to report on the best methods of improving the service to the cancer patient. This committee found that studies of the question in Europe and elsewhere accentuate the view that improvement in cancer service must precede any substantial progress in cancer control.

The conclusions, which may be found in the complete report issued by the Society, are of some length and should be read in their entirety by those interested in this subject.

They are briefly summarized as follows:

1. The care of cancer patients requires special training.

2. A partial survey and a general review of conditions in the United States reveal notable deficiencies in the facilities for diagnosis, special equipment of hospitals and provision of experience and skill in the surgical and radiological treatment of cancer cases. Many of these deficiencies can be remedied by better organization of the cancer service.

3. (1) The establishment of a limited number of large cancer institutes, fully equipped for diagnosis, treatment, research, and education of students and specialists, is recommended.

(2) The establishment of special cancer hospitals where the local conditions are favourable and the material resources are adequate, is approved.

(3) The organization of the cancer service in general hospitals, with the object of concentrating the control of patients in order to secure better results in diagnosis, treatment and estimation of results, is particularly recommended.

(4) Deficiencies in the laboratory diagnosis of cancer is one of the most serious obstacles to an efficient service Effort should be made to increase the competence of pathologists who undertake to diagnose tumours, and this work should be gradually concentrated in universities, hospitals or state laboratories which are known to be provided with men of wide experience in the field of tissue diagnosis.

BUFFALO

The State Institute for the Study of Malignant Disease at present under Dr. Burton J. Simpson, Director, was organized in 1898 by Dr. Roswell Park as a pathological laboratory for the study of cancer, and in 1902 was placed under control of the State Department of Health. This laboratory was the first in the world established for the exclusive study of cancer.

In 1913 a hospital of twenty-five beds was erected by private subscription, and in 1930 the Legislature appropriated $225,000 for the purchase of radium. An emanation plant was constructed, and radium placed in solution for use in treatment of cancer. This form of the use of radium is much more general in the United States than in European countries, where the use of the element is the usual method employed.

The institute is in the hands of a director who has complete charge. There are well-developed pathological, bio-chemical, physical, and hospital departments, each headed by a specialist with a staff of qualified workers.

The pathological laboratory undertakes the free microscopical examination of pathological specimens sent from hospitals and physicians throughout the State and these specimens average 12,000 a year.

The equipment includes 7.77 grammes of radium, of which two grammes are in solution, four grammes in the form of a pack or "bomb" and the remainder in needles and other containers. There are two high-voltage X-ray machines. The institute has now thirty beds, which, with those in the General Hospital across the street, afford ample facilities for the medical and surgical treatment of the 1,500 new cases which attend in a year. Here, as elsewhere, is heard the lamentable complaint that "unfortunately the majority of patients received are advanced cases." There is a well-stocked library, an elaborate record system and an excellent social service follow-up of cases. The institute is supported by the State, and notwithstanding the advanced character of the cases received, the results are remarkably good. It is a well-managed and well-equipped institution and is most popular with the public.

Boston

The State of Massachusetts has a population slightly higher than that of Ontario, contained in about one-fiftieth of our area. Massachusetts has always held a pre-eminent place in public health work in North America. In the tuberculosis movement and in the anti-cancer campaign the State was early in the field in adopting the use of modern methods. Dr. George H. Bigelow is State Commissioner of Health. Massachusetts has the highest recorded cancer rate of any State in the United States. There are about 5,000 deaths from cancer each year, and it is said that there are approximately 11,000 cancer cases. Here, too, it was found that the patients came too late for the most successful results of treatment. This delay is said to account for at least 1,000 deaths a year.

In addition to special facilities in hospitals in Boston, the State Health Department has control of a special hospital for cancer cases at Pondville, outside the city, with 115 beds. There are also fifteen diagnostic clinics located in hospitals in the larger towns throughout the State and these contribute most of the cases sent to this hospital. There is a free diagnostic laboratory service. If able, the patient pays $1.50 per day while in hospital, the State contributes $2.50 per day. "Residence" means that one has lived five years in a municipality. All residents are admitted whether able to pay or not.

The hospital, under the superintendency of Dr. G. M. Sullivan, is staffed by highly qualified surgeons, radiologists, physicists, and laboratory workers. Social follow-up of cases is carefully carried on. The records of cases are well kept. There is one gramme of radium in solution and 200 milligrammes in needles and other containers, the use of the former, however, being preferred.

There are two high-voltage X-ray machines and as elsewhere great pains are taken to protect the staff against any ill effects of the rays. The research work of the hospital is carried on at the Huntington Hospital in Boston. The director of the adult hygiene division, Dr. H. J. Lombard, under whose administration the cancer work of the State is supervised, is of the opinion that treatment of cancer should be carried on in general hospitals already possessed of facilities for this work. He favours the improvement of such facilities rather than the development of special cancer hospitals. Both he and the State Commissioner of Health favour frank discussion of cancer with the public.

NEW YORK

New York City has a large number of institutions for the treatment of cancer. The municipality provides hospitals for free treatment of the sick poor of all kinds and in 1930 approximately 7,000 cases of tumours, benign and malignant, came under the notice of the hospital division. Cancer cases may be sent to any of the municipal hospitals, but as far as possible these cases are segregated in units of the general hospital scheme where special treatment can be provided. The largest unit of the kind is in Bellevue Hospital, which has special facilities for the use of radium and X-rays, and where extensive research work is carried on. There is a special cancer hospital in Manhattan, another in Brooklyn, and a custodial hospital on Welfare Island for the care of advanced cases. The municipality possesses five and one-half grammes of radium, and an emanation plant. A scientific commission examines and evaluates all "cures" offered for cancer, provided that these are submitted according to the simple rules established.

The city has approximately 838 cancer beds, and many of the general hospitals receive large numbers of cancer cases. Mount Sinai Hospital for example, treated nearly 700 cases of cancer last year.

There are nine special cancer clinics in the city, with 5,000 patients, and 41,350 visits.

There is an institute of cancer research at Columbia University, and an elaborate equipment for this purpose at the Rockefeller Institute.

The Memorial Hospital, the irradiation department of which is under Dr. Douglas Quick, is an outstanding cancer research and treament institution, to which there are more than 2,000 admissions a year. This hospital dates back to 1884, and has 101 beds. It is supported by local philanthropy and municipal aid The hospital has four grammes of radium in a pack or "bomb" and the same amount in solution. There is an excellent high voltage X-ray equipment of at least seven machines. A 900,000-volt X-ray machine has recently been installed but was not yet in use at the time of the visit of the Commission. The favourite method of employing radium is by emanation, from the element in solution. Both radium and X-rays are in use continuously day and night, and large numbers of patients are treated. Dr. James Ewing is Director of laboratories. For research purposes there are departments of physics, biology, chemistry, and animal experimentation. The departments of surgery, internal medicine, pathology, radiology, and bio-chemistry are headed by eminent specialists in the different lines of treatment and study. The clinical department is in charge of Dr. Burton J. Lee. There were 2,324 new patients in 1930. All cases are carefully recorded and the follow-up of patients is very thorough. The institution claims successful results rising from zero to ninety per cent. depending on the type and locale of the growth, with an average of twenty per cent. in all cases. The daily cost of treatment averages $8.00 per patient and the annual cost of maintenance half a million dollars. All cases, other than hopeless ones, are admitted, and if patients are unable to pay, the city assumes the expense for residents of three years' standing. This is an excellently managed institution, with a wide reputation for first-class work.

PHILADELPHIA

The study and treatment of cancer are well developed in Philadelphia. The Graduate School of Medicine of the University of Pennsylvania, under the direction of Dr. Ellice McDonald, has three laboratories, two of which are associated with cancer clinics while the third is a purely research laboratory. The clinical laboratories are situated in the Oncological Hospital and the Philadelphia General Hospital, respectively. The central laboratory, purely for research, has twenty-one rooms and a fine library.

The central laboratory carries on research in chemistry, physics, tissue culture, etc., while the other laboratories confine themselves to work in biochemistry, cell morphology and the immunology of cancer. There is a division of animal experimentation.

Besides these institutions there are the Philadelphia Cancer Hospital at Ambler, the Skin and Cancer Hospital, and Jeanes Hospital.

The Oncological Hospital has forty beds for cancer and a large outdoor clinic. The Hospital possesses 426 milligrammes of radium, deep X-ray therapy, an emanation plant, as well as a research laboratory. Our observance of an outdoor clinic indicates the close co-operation of the whole staff in cancer diagnosis and treatment.

The clinic at the Philadelphia General Hospital is a good example of one carried on in a general hospital. This plan is favoured by Dr. J. B. Carnett, Chief of the surgical staff. There are eighty-eight beds for cancer, all on one floor, two grammes of radium, high-voltage X-ray and an emanation plant. The use of emanation rather than of the element is favoured as being more flexible and less subject to loss of material. Associated with the director is a staff of salaried specialists and a number of others serving half time. Practically all cancer cases admitted are referred to the clinic; ultimately all reach the clinic.

There is an excellent record system, and follow-up of cases is regarded as essential to success. Both radium and X-rays are used in association with surgical treatment, in suitable cases. Treatment is begun immediately after arrival. The cost per patient is $3.50 per day, while that at the Oncological Hospital is $8.00 per day. Two-thirds of the cases are pay patients. There is a post-graduate course of three months for medical practitioners.

Education of the public is carried on through the City Medical Society and by the local department of health.

BALTIMORE

Baltimore is a pioneer city in the use of radium in cancer therapy, and this agent is highly regarded by the leading authorities there. The chief institution for this type of treatment is the private hospital of the eminent gynaecological surgeon, Dr. Howard Kelly. At this institution there are five grammes of radium, all in solution, an emanation plant and a first-class X-ray equipment. The radium element is not used. Dr. Kelly is of the opinion that all cancer work of a city should be in one centre either as a separate institution or as a division of a large hospital. He expresses the opinion that by irradiation nearly all accessible early cancers are curable. The advanced are rarely cured, but always palliated. In internal cancer, he thinks irradiation is not promising.

At the Johns Hopkins Hospital where the large proportion of cancer cases are hospitalized a tumour conference under the direction of Drs. Bloodgood and Geschickter, for medical practitioners from all over the country is held at intervals for a period of three days. At the time of our visit about 100 men and women were in attendance doing practical work in tissue diagnosis. Teaching of this kind should be of singular value.

Education of the public and of the medical profession is regarded among Baltimore men as one of the important elements in cancer control. The public should be taught the necessity of seeking medical advice at the earliest moment in respect to moles, growths, unhealing sores and irregular haemorrhages; and after forty, they should be taught the value of periodical health examination. The latter, in women, should include a pelvic examination, and any suspicious case should be thoroughly gone over with laboratory check and biopsy of the growth. There should be supervision of cervical and other pelvic conditions, of teeth and mouth conditions, prostatic affections, and the so-called haemorrhoids.

In the case of doctors it was pointed out that more mistakes are made through slovenly methods of examination of cases than from lack of knowledge. All routine examinations should be thorough and suspicious signs should be carefully scrutinized. The doctors should be on the alert for the danger signals of cancer. The frequent complaint at all clinics is that there is a deplorable waste of life because of late diagnosis and that this condition is due to the combined neglect of patient and doctor.

Dr. Thomas S. Cullen, the well-known gynaecological surgeon of Baltimore, sends all his cases of cancer of the uterine cervix for radium treatment. He is highly impressed by the value of radium in such cases. To him, as well as to Drs. Bloodgood, Kelly and Geschickter, the Commission is much indebted for assistance in gaining extensive information in respect to the problem of cancer control, for useful literature, and for illuminating correspondence on the subject.

One could not fail to be impressed by the quiet enthusiasm of the leaders in this great medical centre and by the thoroughness and meticulous care in the treatment given.

CHICAGO

Tumour Clinic—Michael Reese Hospital

In addition to radio-therapeutic work at various hospitals in Chicago, a special tumour clinic has been established at the Michael Reese Hospital. The term "Tumour Clinic" is used, as the Director, Dr. Max Cutler explains, because people will come to a clinic so named when they will not attend a "cancer clinic." Moreover, not believing that they have cancer they will appreciate the need of an X-ray of the stomach for other disorders.

It is proposed to use this clinic for diagnosis and treatment, and to develop its use as a centre for post-graduate teaching in radio-therapy.

The Director is an advocate of the use of the Columbia paste of Regaud, in moulds for the application of radium. He favours the low intensity and long period use of radium and prefers the element to the emanation. He is strongly of the opinion that both doctors and the public need much education in respect to cancer and that only the expert should be allowed to treat the public by means of radio-therapy. He is also of the opinion that in all the more important cases of cancer, there should be consultation between the various services to determine the best method of treatment, and that if the use of irradiation is decided on, it should be administered by the radiologist and not by the surgeon.

The Director, viewing the situation in Ontario, is of the opinion that it would be advisable to start one complete clinic with auxiliary services of laboratories for research, and, when properly trained men are available, to add a clinic at each medical teaching centre. Diagnostic centres might be established to serve the more remote areas.

Cancer Laboratories of the Otho S. A. Sprague Memorial Institute

Maud Slye is one of the best-known laboratory workers in America and perhaps the greatest proponent of the theory of cancer heredity. She very strongly holds the view that the devotion of effort to *cure* should be supplemented by an equal or even greater effort to *prevent.* She would like to see large sums of money spent in training men and women to recognize cancer and to handle cancer cases as specialists.

Miss Slye thinks our present statistics of cancer are unreliable, since the autopsies of large hospitals show that many patients are wrongly diagnosed as cancerous, and that many treated for some other affection really die of cancer which is unrecognized.

Measures, she says, should be taken to teach large numbers of doctors how to diagnose cancer. She does not appear to place much stress upon the education of the public beyond what has already been done in this direction.

Not only in cancer, but in regard to all other diseases she deprecates a disregard of prevention. Most progress, she asserts with truth, has been made in disease control along preventive lines. As proof she instances malaria, yellow fever, diphtheria, scarlet fever, and other affections whose delimitation is a notable example of the value of preventive medicine.

The long experience of Miss Slye in studying the cancer problem in mice (with autopsies in more than 90,000 cases) invests her views with much authority. She claims to have established her theory of the heredity of cancer in certain strains of mice.

In addition to procuring radium, she offers the opinion that it would be advisable for the Government to spend a much larger sum in the establishment of an institute devoted to the entire cancer problem, to teach'ng and training specialists, to giving post-graduate training to general practitioners, to providing the best-known treatment for cancer patients, and to promoting cancer research.

Rochester, Minn.

The Mayo Clinic is a unique example of the growth, within two generations, of a medical organization from the country practice of a family doctor to one of 75,000 or more cases a year.

Situated in Rochester, Minn., a city of 21,000 people, the clinic is the dominant structure of the city and forms a sort of "clearing house" for the medical, surgical and other services. The clinic is the administration headquarters of the group of physicians, surgeons, radiologists and others who carry on work in the various hospitals of the city—the largest of which, St. Mary's, has 650 beds. At the clinic all records, histories, and other information in respect to patients, are kept and all initial examinations made. Since the various services are on a salary basis, there is the closest kind of co-operation. This condition materially lessens the difficulty constantly found elsewhere of one particular service dominating the whole.

The radium work, under the direction of Dr. H. H. Bowing, is chiefly carried on in the Worrell Hospital (200 beds). There are four grammes of radium, two of which are in solution for use as radon. There is no great preference in the use of one or other type of radium treatment; each one is used as seems best adapted to the case. Radium is highly regarded in treatment of cancer of the uterine cervix, of the body surface, of the mouth, lips and other readily accessible parts. The preference is for the low intensity, long period plan of treatment. The director would like the opportunity of trying the effect of a four-gramme "bomb" in certain types of cancer. At the Radium Institute outside the city, research work is carried on in extensive laboratories.

The X-ray department, under the directorship of Dr. A. U. Desjardins, is in the Curie Hospital where there are two high-voltage X-ray machines for therapy and three for diagnosis. The films seen indicate the high quality of the diagnostic-work carried on by Dr. Desjardins, who believes in the efficiency of still higher voltages than those in use at present. He has confidence in the use of X-rays for treating cancer of the breast and the sarcoma of the bone and showed some good results in the latter affection as well as in lympho-sarcoma, and in "Hodgkin's" disease.

Surgical treatment of cancer at the Mayo Clinic, as elsewhere, is so far the most widely used. Some members of the staff even go so far as to say that it is the preferred method for cancer of the lips. It is certainly so regarded for cancer of the abdominal organs. In breast cancer surgery is favoured and is usually followed by the use of X-rays. The first 800 cases of cancer of the stomach treated in the clinic, according to Dr. Donald Balfour, show 133 ten-year cures. The members of the surgical, pathological, and radiological staff consulted, were agreed that proposed cancer units for Ontario should be established in close connexion with large hospitals, not only to afford the opportunity of under-graduate study but chiefly to offer the best aid to the greatest number of patients. It was suggested that one first-class unit, embracing all phases of cancer work, such as laboratories, pathology and treatment should be set up in Toronto, and that as soon as qualified men could be secured, smaller units should be established in Kingston and London.

A campaign of public education was advised and it was urged that post-graduate courses for doctors should be arranged.

Section III

INVESTIGATIONS IN GREAT BRITAIN

GREAT BRITAIN

The British are a conservative people, and among no class in the British Isles is this universal conservatism in greater evidence than among members of the medical profession. While the profession is well to the front in the great branches of medical science and in cancer research, it was not until recent years that the continental interest in the newer field of irradiation therapy spread across the Channel. The surgical side of cancer treatment was already well developed. The cancer department of the Middlesex Hospital and the Fulham Cancer Hospital have long been known as outstanding institutes for the treatment of cancer. The English apparently do not fear to use the word "Cancer" and the Fulham institution has this name in large letters on its front.

The Imperial Research Cancer Fund was established by the Royal College of Surgeons and the Royal College of Physicians in 1900. It maintains a large laboratory of research, the Imperial Cancer Research Institute.

The Medical Research Council, a part of the King's Privy Council, has carried on investigations into the use of X-rays and radium since 1915, and in 1924 the Council provided 300 milligrammes of radium for the treatment of cancer.

The British Empire Cancer Campaign established in 1923, gave a great stimulus to public interest in cancer. This is a great organization for the purpose of advancing measures for the control of cancer, by public education, the organization of centres for treatment, and assistance given to those engaged in research Among the British Empire Cancer Campaign's publications are, The Cancer Review, a monthly journal of abstracts of articles on cancer, and a booklet "The Truth About Cancer." The organization is not confined to physicians and surgeons, many of the members are distinguished laymen. Capt. E. J. C. Chapman, M.C., Secretary, gave the Commission full particulars of the operations of the campaign and was most generous and obliging in furnishing it with copies of the various publications of this organization.

Sir George Newman, Chief Medical Officer at Whitehall, and Lieut.-Col. H. B. Smallman, C.B.E., D.S.O., M.D., director of the cancer work of the Ministry of Health, were of great assistance to the Commission in providing details of the cancer control work of the Ministry, and in arranging for interviews with authorities in Great Britain and on the continent.

London

London has five special cancer hospitals and two others are established in Manchester and Liverpool. All the voluntary and some special hospitals such as those for gynaecology and skin diseases accept cancer patients.

The National Radium Centres, of which there are seven in England, one in Wales, and four in Scotland, are associated with large teaching hospitals and the medical colleges of provincial towns. In addition to the Radium Institute in London there is the Radium Centre of the N. W. Hospital, Westminster Hospital Annex, the Marie Curie Hospital (for females), the Radium Centre at the Middlesex Hospital, the Cancer Hospital, Fulham Road, and the Radium Centre at Lambeth Hospital.

Most of the teaching hospitals provide post-graduate courses in cancer, and the Mount Vernon Hospital at Northwood has a definite post-graduate course on irradiation given four times yearly.

There are seven large laboratories in England devoted entirely to cancer research. In addition, in many of the large hospitals, research relating directly or indirectly to cancer is conducted. In ten of the large cities such laboratories are subsidized by the British Empire Cancer Campaign.

The Ministry of Health has a departmental commission on cancer and arranges to collaborate in international enquiries on this subject. It has made numerous reports on special cancer subjects.

About three years ago a fund of £250,000 derived from public subscriptions of £150,000 as a thank-offering for the recovery of H.M. the King, and £100,000 from the Treasury, became available for the purchase of radium. A National Radium Trust and a Radium Commission were instituted, the former to take charge of the funds and to purchase the radium, the latter to make arrangements for its custody, distribution and use.

The radium thus acquired added to that already in the hands of various hospitals and centres makes the total quantity in the British Isles about sixty grammes.

Middlesex Hospital

This old-established hospital has a special cancer ward and also admits cancer patients to the general wards. It has one gramme of radium and a deep X-ray equipment, but the surgical idea predominates. The members of the staff include some of the most eminent medical and surgical leaders in the United Kingdom. They know thoroughly well their capabilities, and are slow to be diverted to what may seem to them uncertain channels of treatment. To them irradiation has yet to prove itself superior to surgery in the treatment of cancer. They agree that the treatment of cancer should be a combination of the use of surgery, X-rays and radium. The Middlesex hospital has more than twice the number of breast cases found in any other London hospital. Surgical treatment is favoured but is combined with the use of irradiation in suitable cases. Members of the staff point out that someone must take the ultimate responsibility for a patient's treatment. A patient cannot be under the care of a committee. The opinion of members of the staff was that cancer hospitals should be part of a general hospital scheme rather than separate institutions. Mr. W. Sampson Handley is Senior surgeon; Mr. Victor Bonney, gynaecologist; and Dr. Douglas Webster is honorary radiologist. Mr. A. W. Windeyer has charge of radium work at the Middlesex.

The Radium Institute

This institute, under the direction of Mr. Ward, is one of the National Radium Centres. There is one gramme of radium, in needles and other containers, and one in solution, for the supply of radon. The emanation plant is of the best type. There are thirty beds, of which one-half are for the poor. The institute is associated for treatment with the Mount Vernon hospital at Northwood.

Radon seeds are sent out to surgeons qualified to use them, but not to the general profession. The scope of radium in the treatment of cancer is considered to be limited to surface affections, the cervix of the uterus, the breast in suitable cases, the mouth and pharynx, and inoperable rectal cancer. Its use in the alimentary canal is not favoured. The use of the element is advocated, and low intensity dosage over a long period is preferred.

The support of the institute comes from endowments, fees of patients able to pay, and through supplying radon to practitioners. The average five-day cost to patients is twenty guineas, but many patients are treated free or at nominal cost.

Mount Vernon Hospital, Northwood

This institution, under the direction of Sir Cuthbert Wallace, beautifully situated at a high elevation, twenty miles north of London, is an experiment under the direction of the Medical Research Council. There are beds for 150 patients. Radium, X-rays and surgery are the established methods of treatment. It is one of the National Radium Centres, and patients coming to the hospital are diagnosed at the Radium Institute, or by men on the staff. Its distance from London precludes any great use as a teaching centre, although post-graduate training is given.

They have two and one-half grammes of radium, an emanation plant and ample X-ray equipment.

Results in radio-therapy of cancer of the cervix are said to be good; in buccal cancer, as good as with surgery, but further experience is said to be needed in cancer of this region.

The director favours the treatment of cancer, like other diseases, in hospitals, with centres for research and diagnosis.

The Westminster Annex, in Hampstead, under the direction of Mr. Stanford Cade, has beds for thirty patients. Here a "bomb" of four grammes of radium has been tried, but its use is not favoured, as it ties up too much of the element. Radium is otherwise used as emanation. It was pointed out that radium emanation should be carried out at the ground level, with ample ventilation, since radon settles to the lowest level and is dangerous.

The director thought that a cancer hospital should not be labelled with such a name, as this practice might deter patients from coming for treatment. The treatment of low intensity and long period is favoured.

Fulham Road Cancer Hospital

This is an old and outstanding institution for the treatment of cancer, where the term "Cancer" appears to excite no fear, since the name is set up on the front of the hospital. There are one and one-quarter grammes of radium, all in element, and one 200-kv. X-ray machine to which will shortly be added a more modern one. Extensive additions are being made to the hospital. Its 120 beds will soon be increased to 200, and large new laboratories will be added.

Professor J. M. Woodburn Morison, Director of the Radiological Department, expressed the opinion that physics and the physical laboratory form the whole basis of irradiation and that in this field the most important man is the physicist. "Physical research," he says, "is the brains of cancer work."

Considerable laboratory work has been done in the hospital on carcinogenic compounds. With the new and extended laboratories and the enthusiasm which is evident among the personnel of the institution, one would expect valuable results.

The Senior surgeon of the hospital, Mr. R. H. Jocelyn Swan, regards cancer treatment as team work. He seems impressed by the value of irradiation treatment and is of the opinion that a low intensity of radium over a long period gives the best results.

The Fulham is one of the best institutions your Commission has seen.

The London Hospital

Dr. Arthur Burrows is the Radiologist at the London hospital, and was responsible for the organization of radium and X-ray work in Australia.

In an interview, he pointed out that radium technique changes from time to time. He was of the opinion that radon has its place in treatment, especially in a large centre, where adequate personnel should be available.

He believed that a diagnostic centre should, for economy, be in a large hospital where there are pathological laboratories and competent staff and where weekly consultations should be held.

The interview was largely a discussion of the organization in Australia, taken up in detail elsewhere. See Appendix "C."

Dr. Thos. Lumsden, Director of the Cancer Research Laboratory, London Hospital, has some original views about cancer. He believes the cure may be sought as follows:

(1) The cause may be investigated and if found, may prove to be preventable or tractable.

(2) Some serum, drug or radiation may be discovered, so specifically injurious to cancer cells that these can be destroyed without injury to normal tissue cells (something like arsphenamine in syphilis). If this were forthcoming, the body could be sterilized or freed from cancer cells as often as required.

(3) Some means may be sought by which the body can be rendered resistant or immune to invasion of its normal tissue by the cancer cell, so that any existing cancer would disappear, and recurrence would be impossible (i.e., some means of evoking "tumour immunity").

Dr. Lumsden is working along the latter lines (No. 3), his views resembling to some extent, those of Murphy, H. Cramer, Magat and Maisin.

A long series of experiments, both in the laboratory and in the bodies of animals by Lumsden, lead him to conclude:

(1) That anti-malignant-cell bodies lethal to cancer cells but harmless to normal tissue cells, can be produced.

(2) That when an implanted tumour already established in the body is gradually destroyed by injecting antiserum or formalin into it, active immunity against the tumour is induced by a mechanism, which may be called autovaccination.

It has still to be discovered whether or not similar results can be obtained in the case of spontaneous tumours.

He says further:

"The term 'cure' in relation to cancer, has a double significance: (1) the disappearance or removal of the existing new growth, and (2) the induction of some mechanism which shall prevent recurrence. Surgery and radiation achieve the first object more or less satisfactorily but have little, if any, power to produce immunity.

Autovaccination by inoculation by antiserum is an excellent method of evoking immunity, but it is not easy to maintain a concentration of antibodies in the tumour area sufficient to destroy all the cancer cells. Formalin as a reagent stands between antiserum and radiation. It is a less potent immunizer than antiserum, but more powerful as a destroyer of the existing growth."

Lumsden regards as the most hopeful means of attaining the "cure" of cancer:

(1) To inoculate antiserum into the primary cancer (or to the arteries supplying it), localizing it there by constriction or adrenalin, and

(2) If necessary thereafter, to complete by surgery or radiation the local destruction of the tumour.

MANCHESTER

The Radium Institute, which has a number of beds and an outpatient department, handles all the radium for Manchester, and the radiologist goes to associated hospitals to consult with surgeons and to use radium. There is a high-voltage X-ray equipment.

Christie Cancer Hospital is just across the street from the institute. It has thirty-four beds for cancer cases, and works in close association with the institute. Too many of the cases are far advanced. The surgeon dominates the hospitals for cancer cases, but radium treatment is the method chosen in treatment of skin cancers, cancers of the lip and tongue, and cervix of the uterus. Operable breast cases are operated upon and radium used in the axilla. Later, high-voltage X-rays are used as deemed advisable by the radiologist.

There is a Manchester Research Commission with a laboratory in the University. Work is being carried on particularly in the carcinogenic agents in shale oils.

A pathologist is working on the effect of the posterior lobe of pituitary gland in cancer, and has found that he could cause the disappearance of growths in mice by the use of serum from the gland. (See Susman, Br. Med. Jl., October 31st, 1931.)

LIVERPOOL

Professor W. Blair Bell has been investigating the effect of colloidal and organic compounds of lead on cancer. He was induced to try lead as an anticancer agent owing to its being practically the only abortifacient that is reasonably certain, even though in using it the patient herself gets a toxic dose of lead. Arguing that in cancer we are dealing with embryonic types of cells and that these cells might be amenable to lead, he started experiments over 25 years ago. He has had his best results with certain colloidal lead preparations, and with large doses he claims some cures. He has been using some organic lead compounds synthesized in their bio-chemical laboratories, which gave in animals 80 per cent. to 90 per cent. of cures, but in human beings only 10 per cent. to 25 per cent. Professor Bell uses lead in inoperable cases only.

Recently the Koch Institute of Berlin, manufactured an organic lead No. 232, which, while carrying 50 per cent. of lead in its molecule is said to be feebly toxic to normal tissues, to be readily soluble and easily excreted. It is said to give a high recovery in cancer of animals. Investigations with the preparation are now underway.

The surgeons in Liverpool seem lukewarm toward the use of X-rays and radium in treatment of cancer.

Aberdeen

Professor Catto of the *Royal Infirmary* showed the emanation plant with 300 milligrammes of radium in solution. Apparently no research work is carried on.

Dr. Evans, the Radiologist, said that the routine treatment of cancer of the breast was by radium needling followed by surgery and radium.

Cancer of the uterine cervix, superficial and buccal cancer, are all treated by radium. Cancer of the glands of the neck are treated by a radium pack and operation The radiologist has the right to see all cases of cancer which reach the infirmary. He has a high-voltage X-ray machine which is used in cases of cancer of the uterine cervix and lympho-sarcoma before operation. He prefers radium to X-rays in cancer cases.

There is no set educational programme, but in 1931 about 50 practitioners were given instruction in the use of radium.

Apparently there are no statistics of the work carried on.

It was a pleasure to meet Professor J. J. Macleod, former Professor of Physiology in the University of Toronto, who is engaged among other matters in making further research in connexion with diabetes.

Edinburgh

At the *Royal Infirmary*, Professor Sidney Smith and Dr. Thomson were interviewed.

The infirmary has two grammes of radium in needles, packs and other containers. There are two X-ray machines of 220,000 volts and two of 110,000 volts.

Blue and red tags attached to a wall-board, corresponding to units of radium indicate the whereabouts of the radium. The red tags show the units in use, as well as the ward where they are. The blue tags indicate the units not in use.

A surgeon on the staff is allowed to take the radium owned by the infirmary outside for his private cases. He signs a form describing the units taken and the estimated time in which they will be in use. The radium loaned by the Radium Commission is not allowed to be used outside the infirmary.

Statistics respecting cancer cases were not available.

In cancer of the uterine cervix the surgeon attending the cases uses the radium. Six weeks after its use high voltage X-rays, four treatments in a period of eight days, are given.

X-ray films are taken of the needles *in situ* in breast cases. Long three-milligramme needles are used in these cases. Mr. Shaw pointed out that the routine plan of treatment in breast cases was X-rays followed by surgery and X-rays.

In cancer of the uterine cervix radium is the chief form of treatment. High-voltage X-rays are used in cases of cancer of the body of the uterus. In stomach cases surgery is still the method of treatment.

Section IV

INVESTIGATIONS IN EUROPEAN COUNTRIES

FRANCE

Cancer work in all departments is highly developed in France. As far back as 1842, a charitable lady, Madame Veuve Garnier, of Lyons, temporarily opened her home to poor women stricken with cancer and afterwards founded the first of the institutes known as Calvaries. There are now eight of these special hospitals (including one for men) in France, where incurable cases are cared for.

In 1908 the "French Association for the Study of Cancer" was founded to promote research, and in 1918 the "Franco-Anglo-American League for the Control of Cancer" was created for the purpose of arousing interest among the public in the cancer problem and of providing increased facilities for treatment.

PARIS

The *Radium Institute* was established and began its work in 1910. By 1921 the Council of Paris had set up radium services in several of the city hospitals, and the Department of the Seine in the same year began a cancer centre at Villejuif in the suburbs.

In 1922 the Ministry of Health organized cancer centres in all the medical schools of France, provided them with radium and X-ray equipment, and gave them state support. There are sixteen such centres for treatment outside Paris—too many—according to those of the highest authority. At any rate, the results appear to be satisfactory, and France may well point with justifiable pride to her efforts in the control of cancer.

The *Radium Institute of Paris* consists of two parts:

1. A laboratory of physics and chemistry, under Mme. Curie.
2. A laboratory of research and polyclinics, and two hospitals for the treatment of cancer.

In the institute there are eight grammes of radium, of which 260 milligrammes are in solution, and eight high-voltage X-ray machines.

The personnel of the institute is salaried and under a board of directors. The laboratories are the property of the University of Paris. The project is a State one. The budget is 1,500,000 francs (the franc being about four cents), and 200,000 francs come from donations. The aggregate fees, which are applied for the benefit of the institution, amount to 900,000 francs. The poor are treated free. Six Paris hospitals have a radium-service from the institute.

The Director of the Institute, Professor Cl. Regaud, and Professor Gustave Roussy of the Villejuif clinic are of the opinion that there are too many treatment centres in France, that it is better to have a few first-class centres and to bring patients to them, and that an institute for cancer should be under control of the university from the scientific point of view, and of the State from the financial point of view.

Highly-trained personnel is essential to gain the best results. The director of the institute favours an internist as head of a cancer centre. In the use of radium he advocates a low intensity over a long period, and he uses radium or X-rays in situations where they are calculated to give the best results. A supply of two grammes of radium for each million people is his estimate of requirements.

In the experience of the director the best results from irradiation are found in cancer of the skin, mouth, lips, and cervix of the uterus. These, under favourable conditions, may be cured. In the institute there has been no success in irradiation treatment of the internal digestive organs, except in some rectal cases. In breast cases surgery is preferred. Prophylactic radiation is not used.

The laboratories of the institute are well-equipped, the records well-kept, and cases are followed for long periods. Preference is had for Columbia paste (a mixture of sawdust and wax) in the preparation of moulds and applicators in the use of radium.

There is an up-to-date emanation plant. Indeed, the institute is one of the best in equipment, personnel and clinical results to be found anywhere. Of 212 cases of cancer of the uterus of one, two, three degrees respectively, treated in the period 1919–21, statistics of five-years' cure are twenty-six per cent., twenty-three per cent., five per cent.—average fourteen per cent. In 293 cases, 1922–25, similar statistics show seventy-five per cent., thirty-eight per cent., twenty-seven per cent.—average thirty-two per cent. The total cases show an average five-year cure of fifty-one per cent., thirty-one per cent., nineteen per cent—average twenty-four per cent. The director claims a cure in fifty per cent. of early cases of cancer of the tongue, and twenty-five per cent. if the glands are affected. He has eighty per cent. of primary lip cures. Despite the fair results achieved, there is in the institute as in Great Britain, a conservative attitude towards the use of radium and X-rays.

Radium Institute, Villejuif

The institute of cancer research and treatment at Villejuif on the outskirts of Paris is attached to a large and modern general hospital with attractive grounds and buildings. There are sixty beds for cancer, and the number is soon to be increased to one hundred. The radiologist is a woman physician, Dr. Simone Laborde. About 1,500 cancer cases are treated each year.

The research laboratories are very extensive, modern, and complete, costing 900,000 francs a year. A "bomb" of two grammes of radium has been in successful use for the past year.

While Professor Regaud of the Radium Institute advises against the use of the term "Cancer" in the designation of a centre, Professor Roussy, the Director at Villejuif, favours its use. These French clinics are amongst the best we visited. The respective directors have an international reputation in radio-therapeutic work.

BELGIUM

Belgium, because of the fact that she produces ninety-five per cent. of the world's annual output of radium is in a unique position in respect to this type of treatment. There are five cancer centres.

Each of the four medical schools of the country has an official cancer centre; the fifth is connected with the Brussels Surgical and Radiological Institute. Each centre has two grammes of radium, a complete surgical service, high-voltage X-rays and a highly organized laboratory service. One-eighth of the radium is used in research and the remainder for treatment. There are two additional diagnostic centres, all being under the State and in receipt of government subsidies. The staff in the centres are salaried officers. There is close government inspection and scrutiny of reports, but there is no interference with methods of treatment nor with lines of investigation. The opinion was expressed that there would be better results if there were fewer treatment centres and more diagnostic ("spying") centres. "Follow-up" of cases is regarded as essential and elaborate measures are taken to ensure the regular return of patients. Great stress is laid upon public education. Cancer education and advertising of the spectacular kind are utilized and are in the hands of "The National League against Cancer." The motto is "Cancer taken early is curable." All educational work in cancer is paid for. Voluntary help in the cancer campaign has been abandoned. The cured patient is regarded as the best advertisement. In health education advantage is taken of the great number of societies (some 1,500), in Belgium. Everyone belongs to a society, and through combinations of societies people are gathered in a feste to hear lectures on cancer. Mr. Willem Schranen is Secretary-General of the National League.

The expenses of the League are defrayed by the government, the municipalities and from private donations. The cancer work is under the Ministry of Health. It is said to be very easy to obtain money in Belgium for hospital or charity funds.

Brussels

The Surgical and Radiological Institute,
Dr. Felix Sluys, Director.

This is one of the five cancer centres of Belgium, a government and municipal institution with forty-five beds, a 200-kv. X-ray apparatus, and a radium "bomb" of 240 milligrammes. Emanation is not used. Some excellent clinical work was observed. Radium is used by the low intensity and long period method. Satisfactory results in cervix and surface cases are obtained as elsewhere. In breast cases, they use X-rays, surgery and finally X-rays.

The Brugmann Hospital

This is a teaching hospital of 3,000 beds, situated in large grounds and established on the one-storey pavilion plan. There are forty-five beds for cancer cases. There are ample radium and X-rays. There is a special "follow-up" social service. In this centre a wax material called Nidrose is used for applicators. It is moulded readily at 120° C. and to it may be attached buds of white wax in which the radium is embedded. No emanation is used. The laboratories are extensive.

Louvain

Institute St. Raphael

The cancer centre at Louvain attached to the University of Louvain, is directly in charge of the Professor of Pathology, Dr. Maisin, who has a high reputation not only in this field, but also in the fields of radiation and clinical surgery. The cancer unit of fifty-five beds, while located in the hospital, is absolutely independent in its organization. The new medical school of the university is attached to the centre and there are 900 medical students.

The entire hospital has 215 beds. There are three to four grammes of radium and four high-voltage X-ray machines. The laboratories for research and animal experimentation are extensive and anyone may pursue cancer research there.

The results obtained from the use of irradiation in the uterine cervix, the skin and lips, are similar to those secured elsewhere. Prophylactic X-rays are used in breast cases. The director is using a tissue extract made from normal spleen, brain or thymus of beef. At the time of the visit of the Commission, 122 inoperable cases were under treatment. Some success is claimed for this method. The extract is made by fractioning the fat and lipoid extracts of the normal organs; the lecithin-contained fraction is injected about the growth and in internal cancer subcutaneously.

GERMANY

In Germany, since 1900, the spread of public education about cancer has been in the hands of the German Central Committee for the study and control of cancer. By means of pamphlets and letters there has been active instruction of the physicians, the public, nurses and midwives. There is a free service for the diagnosis of tumour specimens.

Cancer institutes have been established in Berlin, Heidelberg, and Hamburg, the first two with bed space and the latter for research work only. Germany does not favour special institutes for cancer treatment, because of the danger of creating a fear of such places. Most cases are treated in ordinary hospitals.

While supplies of radium are very meagre in Germany, she has kept abreast of the times in cancer research. In the effective application of this knowledge to patients she does not seem to have made equal advance.

Berlin

Charité Hospital

In association with irradiation in this hospital, certain chemicals are injected prior to the use of X-rays and radium. It is claimed that colloidal solutions of certain aniline dyes or tuberculine improve the effect of X-rays. A tissue extract of similar type to those in use at Louvain is employed. The experiments under the direction of Professors H. Cramer and Magat form a subject of great interest, of which much more may be heard.

University Polyclinic

Professor Dr. Blumenthal is the director and Professor Halberstädter is the radiologist. There are two water-cooled high-voltage X-ray machines. There is one gramme of radium, the element being used. The clinic possesses what is said to be "the smallest emanation plant in the world" (50 milligrammes). It is a metal cylinder one and one-quarter by four inches with a tube of six or eight inches. It is known as dry emanation and is said to be even more effective than the emanation from a radium solution. The clinic treats 1200 cancer patients a year.

The Kaiser Wilhelm Institute for Zellphysiologie

This institute, established chiefly by Rockefeller Foundation benefactions, is doing biochemistry work. About a dozen men are engaged here in scientific investigation. At present the chief research work carried on is on oxidation in both normal cells and cancer cells. The director, Professor Otto Warburg, who is the Nobel prize-winner in medicine for 1931, thinks that so far no chemical substance of value in cancer treatment has been found.

HAMBURG

The *Cancer Institute* in Hamburg is used entirely for research; there are no facilities for treatment.

One of the principal hospitals of the city, St. George's, with 2,000 beds, has facilities for irradiation treatment. The director is Professor Dr. Holthusen. There are three high-voltage X-ray machines of the type seem in Frankfort but the distant rather than the compression treatment of Holfelder is used. Radium, both element and emanation, is employed in suitable cases. The emanation plant is very small and compact.

There is a large department for diagnosis as well as for treatment in many non-malignant affections. The total reaches 30,000 cases a year. The slides, photos, and films of cases shown the Commission were very extensive and of the highest quality.

FRANKFORT

The *Institute* in Frankfort is part of a civic hospital and is under the direction of Professor Dr. Holfelder. The hospital possesses one of the best equipments of X-rays in the world. The building apparently has been erected for this special purpose. The ground floor is taken up chiefly with diagnostic rooms. There is special separate diagnostic equipment for almost every region of the body. All attendants are thoroughly protected against the action of rays by lead and barium plaster. There is a consulting room for the daily consultation of the staff and the corridor wall is lighted to show X-ray films. The generating rooms are on the next floor, and the third floor is devoted to treatment, records and laboratories. There are six tubes for deep therapy. No radium is used. The applicator of the cannon is pressed deeply into the tissues of the breast, abdomen, etc., in treatment, so as to get as close as possible to the growth, and to compress the blood out of the skin, which, it is claimed, is thus rendered less radio-sensitive. The director uses high-voltage X-rays for breast and all cases of cancer, before and after the operation, or in certain cases, alone. It is claimed that X-rays are best for deep-therapy work, for rectum, breast, and throat, and radium best for skin and mouth The basement is occupied by electrical apparatus for diathermy, also by sun lamp treatment for rickets and marasmus in children, and by a direct current for cancer of the skin. This is a very complete institution for treatment by X-rays. Last year, 13,000 to 14,000 patients were treated by deep therapy, of whom about 10,000 were cancer. Results in cancer of the stomach appeared to be good. The director claims four or five cures of cancer of the stomach by X-rays. We saw films of three cases of cancer of the stomach treated one and one-half years ago with no apparent return of the disease. The director thinks there is no better X-ray apparatus than the 200,000-volt machine. He is of the opinion that higher voltage will do more harm than good. The records of the institution are excellent but there is not a complete follow-up of cases.

SWEDEN

Sweden has made great advances in the solution of the cancer problem. In care of patients, in details of organization and in follow-up of cases, her programme is one of the best to be found in the world. This organization, conceived by a surgeon, John Berg, has been developed largely through the genius and capacity of its present Director, Dr. Gösta Forssell, and his assistants.

STOCKHOLM

Radiumhemmet

The chief centre for active treatment of cancer is the Radiumhemmet ("Radium home") in Stockholm, where there are sixty-four beds for cancer patients, with twenty-one and eighteen respectively at two other centres, viz., Gothenburg and Lund. A new hospital of one hundred beds is projected for the Radiumhemmet. Of all cancer cases Stockholm receives 55.46 per cent., Gothenburg 22.16 per cent., and Lund 22.38 per cent.

There are ten grammes of radium for the three centres and no emanation. A small quantity of radium is held by some five other institutions, but these are not encouraged to do radio-therapeutic work. Twenty-eight hospitals of the country are used for diagnosis, under men trained at the Radiumhemmet. Most of the X-ray diagnostic work is done in the large hospitals of Stockholm. At the Radiumhemmet they use a bomb (three grammes) of radium with good effect. There is ample X-ray equipment which is extensively used in cancer treatment.

As in Great Britain, most of the funds for the purchase of radium came from the public as a gift to His Majesty the King. Five million kroner were subscribed by the six million people of Sweden within six months.

Treatment is free for everyone unable to pay. This expense is borne by the local municipality and the state. By every possible means cancer patients are induced to attend the clinics, and the railway fares are paid. There is an elaborate system of records, and the follow-up, which in important cases reaches to twelve years, is so complete that but one per cent. of cases fail to return for observation.

The medical profession in Sweden has an exceptionally fine training, and post-graduate work in radio-therapy extends over four or five years. Dentists and nurses are carefully trained at the centres. There is an effective education of the public. In Stockholm alone the clinic has from 150 to 200 cases a day. There seems to be a complete collaboration between all medical, surgical and radio-therapeutic services, and it is asserted that all cancer cases receive the *treatment best suited* to the particular case. All practitioners have such confidence in the clinics that the majority of cancer cases are promptly sent there. In spite of these conditions there is the same complaint as elsewhere, that many cases come too late for successful treatment; but here, also, it is pointed out that the cured patient is the best educational argument.

In operable breast cases it is the custom to give a series of six high-voltage X-ray treatments in ten days and after a rest of four to six weeks, a further series of four such treatments in the week preceding operation. After operation, X-ray or radium treatment is given to the axilla but not to the breast area. This plan is varied according to the case and is said to give excellent results. In small fibroids in a young patient, operation is done. In large ones not readily operable, X-rays are used.

The director, Dr. Forssell, regards the dosage of radium as more constant and exact than that of X-rays, but both are highly valuable. Further discussion of this subject will be found elsewhere in this report.

Here, as elsewhere, the advice is given to centralize cancer work, to have one or two good centres with complete equipment, rather than a large number with inadequate facilities.

Estimates of the radium needed by a country were given as follows: Two grammes for each million of population, or for each 1,000 deaths from cancer, or two to two and one-half grammes for each twenty-five beds for cancer.

Clinical Work, Radiumhemmet

The assistant director, Dr. Elis Berven, supervises the clinical work, aids in collaboration and carries on radium and X-ray treatment. Here the need for centralization of work was constantly repeated. It is thought a mistake to have too many centres. One main centre was advised for Ontario, with diagnostic centres in connexion with large hospitals having X-ray equipment and the establishment of centres where medical schools exist as soon as competent men are available.

The Radiumhemmet has had 28,000 cases for treatment since 1910. There is a day set for each type, e.g., breast, Wednesday; uterus, Thursday, etc. Treatment of cancer of the stomach by irradiation is avoided, as there are no facilities for this work at the Radiumhemmet. The assistant director is not impressed with the value of colloidal chemicals for the attack on cancer.

The practice in the use of radium at the Radiumhemmet is the opposite to that of the Fondation Curie in Paris. Here they use a high intensity for short period instead of a low intensity for a long period. Good results are said to be obtainable by either method.

About 300 cases are treated annually by the "bomb" of three grammes. The director and the assistant director are strongly impressed by the value of this method of treatment. Dr. Forssell says: "If you wish to be in the line of progress you will use teleradium treatment with a 'bomb'."

There are six X-ray machines using 150 to 170 kv. Seventy to eighty treatments are given daily, or 21,000 to 24,000 per year of 300 days. At the Radiumhemmet is shown the photo of the *first* patient in the world cured by the (weak) X-ray (1900).

Trained Radiological Personnel

The need of trained personnel is nowhere more highly emphasized than in Sweden. In addition to seven years of medical training, the students in the medical colleges have 20 lectures in the principles of X-ray diagnosis and treatment, and there is a two months' voluntary course of practical training, in which six lectures are given. Practically all students take the voluntary course.

The young doctor, wishing to pursue the method of irradiation, is taken on following a two-years' interneship; he has two years in the Radiumhemmet followed by two years as assistant in X-ray diagnosis and therapy in recognized centres. Finally, a fifth year is spent as radium and X-ray officer in one of the twenty-eight recognized provincial hospitals. This extensive post-graduate course is similar to that required by the Memorial Hospital, New York, and should form a guide to the requirements of proposed centres with us.

Education of dentists, nurses and the masses of the people, about cancer, is thoroughly carried out. Two and one-half million pamphlets entitled "What you can do and cannot do in cancer" are sent out each year. An almanac containing reliable information on cancer reaches every home. Systematic lectures are given. Care is taken not unduly to alarm the people.

The long experience of Dr. Forssell, the Director of the Radiumhemmet, his high reputation in irradiation treatment and the great confidence he has won from the public and the medical profession of Sweden invest his views with authority. At home and abroad his opinion on the subject of radio-therapy commands the highest respect.

DENMARK

In Denmark, the combating of cancer is a national movement, the funds for the fine modern Radiumstation, directed by Dr. Jens Juul, in Copenhagen, were contributed by the Danish people. This institution is managed by the "National Anti-Cancer Association" with a State grant of aid. In addition there are two other radium-treatment centres, viz., at Aarhus and Odense. X-ray treatment of malignant tumours is given in a number of hospitals throughout the country. There is active co-operation of all services in treatment, and great care is taken with the records of patients. No patient is lost sight of. It is recognized that if, as in Sweden, patients could be given a cost-free journey to the Radiumstation, the results would be much improved.

The country possesses about six grammes of radium. Both element and emanation are used, and the Copenhagen station has two high-voltage X-ray machines of the type seen in Frankfort. There are a pathologic-anatomical laboratory, a physical laboratory and one for experimental research.

In Copenhagen, the great Finsen Hospital and the Radiumstation are in the same grounds, with the same board of directors but with independent financial arrangements. The Finsen Institute is used for treatment of lupus, heart disease and surgical tuberculosis by artificial sunlight and for the study of light on living organisms. Large numbers of cases are treated.

It is said that Denmark has the highest mortality from cancer of all European countries. But the Danish people are well organized and the medical profession well-trained to cope with the malady.

CHAPTER TWO

PREVALENCE OF CANCER, INCLUDING ITS AETIOLOGY, DISTRIBUTION AND CHARACTER

THE PREVALENCE OF CANCER

The term cancer in reality covers a group of allied diseases and is used in the same sense in which we use the term infectious disease to apply to a number of separate infective processes. Under cancer are included two main groups of tumours, viz., the sarcomas and carcinomas. These again are variously subdivided, different bases of classification being given by different authorities as will be evident to anyone consulting the standard text-books on pathology.

Cancer is widespread and the evidence seems conclusive that it is increasing over the whole world. In the mortality returns of nearly all countries it has displaced tuberculosis from its position as the second greatest cause of death, the premier place being maintained by the heart diseases. Statistics over the past thirty years show in most countries a steadily falling tuberculosis death-rate, and a steadily rising cancer death-rate. It is possible that a substantial portion of the mortality of cancer may in modern times have been uncovered by the improvement in the records of death, by the more skilful diagnosis of physicians and by the increase in the life of man, but notwithstanding all these, the facts seem to indicate that the incidence of the disease, if we judge by the mortality rate, is on the increase. The view that cancer is largely confined to the civilized races no longer holds. There is evidence that if we consider the poorer opportunity for complete diagnosis and the fewer persons of advanced age, the incidence of cancer among aboriginals is quite as high as it is among civilized people.

The figures indicating the prevalence of cancer have for convenience been relegated to Appendix A, but it will be of interest briefly to consider some facts in respect to the situation in Ontario and other parts of Canada.

The Registrar-General's reports for Ontario bring into prominence the alarming increase in cancer mortality.

Thus in 1914 one finds that the recorded cancer rate was 69.6 deaths per 100,000 of population; in 1919 this rate had increased to 75.5; in 1929 to 104; and in 1930 to 109.5. In a population of approximately 3,500,000 there were 3,635 deaths in 1930.

The increase in cancer mortality is general all over Canada as may be seen by reference to the statistics in the Appendix. In 1930 there were in Canada 9,263 deaths recorded from cancer, the aggregate death-rate being 93 per 100,000 population.

The newer sections of the country, such as the provinces of Alberta, Manitoba and Saskatchewan, with a population of younger age, have the lower rates.

The records for England and Wales since 1847 show a similar increase. In 1847-50 the death-rate was 27.4 per 100,000. In 1930 this rate was 145.3.

In the United States of America, similar increases are on record, especially in the older settled states. Thus Lombard (Rhode Island Medical Journal, August, 1929) gives statistics of cancer mortality in Massachusetts as follows:

In 1842 the cancer deaths in Massachusetts were 13 per 100,000 population.
" 1860 " " " " " 26 " 100,000 "
" 1900 " " " " " 71 " 100,000 "
" 1928 " " " " " 129.8 " 100,000 "

Kaplan (Radiology, August, 1931) says that in New York City in 1910 the certified cancer deaths were 78 per 100,000 of population, while in 1930 these were 117 per 100,000 of population.

Increase in Cancer Incidence and Mortality

The increase in the number of cancer cases and deaths seems to be world-wide. There can, indeed, be no reasonable doubt that there is this actual increase. Partially, the increase may be accounted for by better diagnosis and thus more correct certification of cases, while with the increasing longevity due to public health measures more people live to reach the age at which cancer has its greatest incidence (viz., after forty years).

Incidence in Relation to Mortality

For every death in any one year it can be calculated that there are three sufferers from cancer. Since there were in 1930, 3,635 deaths, it is fair to assume that between 10,000 and 11,000 people suffered from cancer in that year in Ontario and these figures may be taken as expressing the present incidence of the disease.

Age and Sex Distribution of Cancer

While cancer may occur at any age, the greatest incidence of cancerous diseases is after forty. The sarcomas are distinctly more common in childhood and early adult life, but as this group makes up but five per cent. to eight per cent. of the total, the age distribution thereby is not materially affected.

So far as sex is concerned, figures show a slight predominance of female cases. The locale of the cancerous growths varies widely with the sexes. Males show a marked predominance of cases of cancer of skin, lips, tongue and throat, a less marked one in cancer of oesophagus, stomach and rectum, while these are more than counter-balanced in the female by cancers of the breast and uterus. Appendix A contains statistics showing the distribution as to site, sex and age.

Discussion of Nature and Causation of Cancer

The growths we class as cancer belong to the general group of tumours. Many definitions of tumours have been propounded, but that of the late Professor C. P. White is here given, viz.: "A tumour is a mass of cells, tissues or organs resembling those normally present but arranged atypically. It grows at the expense of the organism without at the same time subserving any useful function." From a clinical standpoint tumours are in turn divided into the benign and malignant groups. The benign tumours are composed of cells which in their characters approximate to those of some adult (fully developed) body tissue. Such growths tend to be circumscribed and slow growing and show no tendency to disseminate.

Malignant or cancerous tumours on the other hand are composed of cells and tissues imperfectly differentiated and with increased vegetative and proliferative activity on the part of their cells. Hence these growths show little or no tendency to be circumscribed; they grow rapidly as a rule, spread out into surrounding tissues and tend to develop metastases (secondary growths) elsewhere by way of the lymph channels or blood stream.

In their origin then, both benign and malignant tumours, arise from the ordinary tissue cells of the part affected. Rapid proliferation of the cell is characteristic of cancer. It seems to be a local rebellion of cells against the established order seen in normal cells. So far, however, no real cause can be assigned for the setting up of proliferation on the part of the local cells. It is the general opinion of all those consulted (a) that cancer is not infective, that is, cancer is not due to the transfer of any virus from a cancer patient to those with whom such patient has been in contact; (b) that cancer is not related to diet, whether animal, vegetable, or mixed, or to either excess or deficiency of any one food; (c) that cancer is not hereditary. True it is that in certain families there is a definite increased incidence of cancer, but this means only that their tissue cells more readily give origin to cancers.

Another point of importance which emerges is that cancer in its early stages is a purely local disease and that, while in this stage, it is particularly amenable to treatment.

In the Bulletin of "The Cancer Hospital," Fulham Road, London, England, this statement appears: "There is no disease which people dread so much as cancer. Much of this fear will be dissipated when it is clearly understood that cancer is at first a local disease and that where still local and accessible it is always curable."

While thus cancer at first is local there is much to commend the opinion that some alteration in the general body metabolism is a factor of importance in permitting such local growth. Of many researches under way in different laboratories, the results obtained point strongly in this direction. Reference here need only be made to the work along these lines published by the Cancer Research Laboratories of the Graduate School of Medicine of the University of Pennsylvania.

Two factors which seem to have a definite bearing on the aetiology of cancer are (1) age, (2) exposure of local parts to irritation.

> 1. Age—While the sarcomas are commonly tumours developing during the actively growing period of life, viz., childhood and youth, these make up no more than five to eight per cent. of cancerous growths. The carcinomas on the other hand are essentially tumours of middle age and older people. It would seem that in many persons age robs the tissues of their capacity to withstand cancer.
>
> 2. There is no doubt that repeated irritation, especially when prolonged over months or years, may lead to the development of cancer. Thus cancer of the lower lip develops in certain pipe-smokers at the site on the lip where the pipe is held. Cancer of the tongue develops opposite a rough or jagged tooth, or on the site of a syphilitic plaque. Cancer of the cervix uteri grows at the site of a laceration at child-birth. Mule-spinners' cancer develops from repeated contact with shale oil used as a lubricant on weaving machines. Workers in aniline dyes seem to be susceptible to cancer of the bladder.

Into the mechanism of cancer development as a result of chronic irritation, it is not essential that we should enter. The theories in respect to this will be found with full discussion thereon in various standard text-books on pathology.

Lymph-stasis Theory of the Case of Cancer

In his recently published book, The Genesis of Cancer, 1931, Mr. Sampson Handley advances the theory that lymphatic obstruction is the underlying cause of cancer. He says: "Any given consequence, such as cancer, springs from a chain of previous events stretching back to infinity and not from a single cause. But if among these events one can be detected which for a given consequence is very frequently present, and has never been proved absent, the clue to the problem of causation has been obtained and this event may be provisionally and loosely spoken of as the cause. In this sense I am bold enough to claim that *lymphatic obstruction* is the cause of cancer, though the labours of generations may be required to trace the intermediate steps. The evidence for this view is so substantial that it may claim to rank not as a hypothesis, but as an established theory—that is to say, as the solvent and unifier of all the relevant facts hitherto observed and the guide to future research on the subject. It has been raised to the rank of a theory by successive waves of evidence, coming in like a tide from independent observers and referring to distinct varieties of carcinomas, but all bearing testimony to the genetic relationship of papilloma or adenoma and carcinoma. The lymph-stasis theory of the genesis of cancer denies neither the infective nor the irritation theories. It reduces them in rank and absorbs them in a larger generalization. It denies the existence of any one specific cancer organism or parasite and asserts that the carcinogenic action of irritants upon the epithelium is exerted indirectly through the obstructive lymphangitis they set up in the lymphatic vessels of the sub-epithelial connective tissue."

As remarked by *The Lancet:* "It is for his work on the surgical or therapeutic side of cancer that the name of Sampson Handley will be lastingly remembered since by his classical researches on the paths of dissemination, he placed the surgical treatment of cancer upon a more scientific foundation—a foundation which is not likely to be shaken until we dispense with mechanical methods of destroying malignant growths."

Precancerous Conditions

In addition to the true cancer and benign tumours, there are cell processes which may precede true cancer and which are known as precancerous conditions. These precancerous reactions of tissue cells appear to be due to the influence of some external irritant or of some internal stimulus. Some of these growths result in cancer, the cancer developing from such primary local cell overgrowth. Thus it appears that there is a stage in the life history of certain cancers when the growth, while a departure from the normal, is not actually cancer. Examples of this are seen in the pearly appearance of the lip in smokers, in the white spots on the tongue or inside the cheek, or in the scaly accumulations of epidermis on the faces of elderly persons. These are not cancers; they are precancerous conditions which may, and frequently do, become cancerous. Early observation of and attention to precancerous conditions are most important in the prevention of cancer.

CHAPTER THREE

Section I

TREATMENT OF CANCER

TREATMENT OF CANCER

The factors which must be considered in the treatment of cancerous growths are (*a*) the site of the growth, (*b*) the type of cancer, (*c*) its stage of growth, and (*d*) the resources available for treatment.

(*a*) We may roughly define the sites of growth as accessible and non-accessible. Accessible growths comprise growths appearing on skin, lip, tongue, breast, cervix and body of the uterus. Non-accessible or poorly accessible applies to such growths as those along the digestive tube from pharynx to rectum, also to growths in the liver, pancreas, kidneys, lungs, mediastinum, brain and bones. Site, too, is an important factor in determining the diagnosis of cancer; as the more accessible and visible it is the quicker it is of recognition. The effects and limitations of treatment can be better gauged in accessible areas.

(*b*) The type of cancer is important in determining its relative malignancy. Some forms of cancer are very malignant and even their early recognition and treatment may not succeed in saving the patient. Others are much less malignant and thus afford more scope for treatment. For the purpose of diagnosis and of determining both the type of growth and its relative malignancy, it is a common practice in accessible areas to remove a fragment of the growth for microscopical examination as to its histological structure. This practice will usually determine these characteristics. Some authorities question the use of biopsy, but most are agreed that its value far outweighs any possible risks.

(*c*) The earlier a cancer growth is recognized, the more likely it is to be purely local and amenable to treatment. Hence early recognition of cancer is of the greatest importance to both patient and doctor. Figures show that at the present time only from twenty to twenty-five per cent. of cancer cases seek relief at a time at which cure is possible. Francis Carter Wood in March, 1931, Radiology, says: "Only twenty per cent. of cases of carcinoma admitted to hospital are operable. That is, eighty per cent. are, when seen, incurable by means of surgery. A few of these may be cured by irradiation."

Why the delay in recognition and seeking relief? This question has been discussed by various authorities, but for our purposes it suffices to quote from Lombard's conclusions in cancer studies in Massachusetts (Commonhealth, vol. 16, No. 14, 1929).

> 1. The median delay between first symptoms and first consultation with a physician for individuals with cancer coming to the state-aided cancer clinics in Massachusetts is six and one-half months.
>
> 2. Males delay longer than females, except for skin cancers.
>
> 3. The greatest delay is in cases of cancer of the skin and the shortest delay is among patients having cancer of the uterus.
>
> 4. Thinking that the condition was a minor malady is the largest single cause of delay. Among males this reason is considerably greater than among females.
>
> 5. The greatest single cause of delay between consultation with a physician and the institution of adequate treatment is because of poor advice on the part of the attending physician.
>
> 6. Forty-five per cent. of cancer patients have a median delay of six months after consulting a physician before adequate treatment is instituted, while fifty-five per cent. received treatment within a short time following diagnosis.

We note from the above that in the State of Massachusetts Lombard finds the patient's own delay in consulting a physician is the main factor in cases presenting themselves at a time when tumour growth is in its earlier (and more curable) stages; that physicians in forty-five per cent. of cases materially add to the delay by their non-recognition of the actual conditions present. Thus both patients and physicians need education which will lead to the earlier recognition of cancer.

(*d*) The chief resources in the treatment of cancer are:
Surgery and

$$\text{Radio-therapy} \left\{\begin{array}{l}\text{Radium}\\ \text{X-rays of high voltage}\end{array}\right\}$$

Of these resources, surgery has long held the field, and surgery remains the most potent agent of treatment in cancer of the stomach, of the intestines, the fundus of the uterus, and other abdominal organs, though this field is being somewhat invaded by irradiation either as an active or as an auxiliary treatment. It is still the best resource in cancer of the larynx and oesophagus, but in these fields also, radium is taking a part. In treatment of cancer of the breast, surgery holds chief place but here again radium and X-rays are widely used in auxiliary treatment.

In cancers of the surface of the body, the lips, buccal cavity, the jaws and throat, and the uterine cervix, radium and X-rays afford very satisfactory results, especially if cases are seen early, a requisite that decidedly enhances the opportunity of cure by any method. It appears therefore that for the largest number of cancers of the human body, surgery is still the method of choice, but it is equally apparent that both radium and X-rays are powerful and effective methods of treatment, and that facilities for treatment of cases should include all three.

In addition to these methods there is a variety of therapeutic measures such as various serums and tissue extracts and the use of colloidal lead or arsenic. The results from these are, so far, too indecisive as seriously to enter into competition with the proven results of the well-known above-mentioned triad. These agents are dealt with more specifically elsewhere.

Surgery

In this report it is unnecessary to dilate upon the value of surgical treatment. Surgery since the days of the immortal Lister has shown an extraordinary development and some of the most prominent surgeons are of the opinion that its limits as a therapeutic measure have almost been reached. Surgery still holds the premier place in cancer treatment; the surgeon has reached an astonishingly high degree of skill; he is confident of himself, and it will be only by a discovery of newer, more exact, and simpler methods that he will be superseded.

The limited space in this report given to the consideration of the surgical treatment of cancer, fails to indicate the immense value of surgery as a therapeutic agent in malignant growths. The surgical treatment of cancer is so well known, both within and without the profession, that it seems out of place to say any more, than that in our present state of knowledge it is still the line of approach in the majority of cases.

Opinion of the value of early surgical measures in cancers is given by Lord Moynihan, one of the most distinguished of British surgeons, as follows:

"No better illustration of the value of early surgical interference in cases, for example, of cancer of the breast could be given than the statistics published three years ago by our Ministry of Health. Very briefly, it was found that when the operation for cancer of this organ was performed in the early stage of the disease, 90.1 per cent. of women were alive and well ten years after operation, whereas if the disease was very advanced, 94.4 per cent. were dead within this period. The nature of the disease was the same, the operation was the same; the stage of the disease made all the difference. It is true to say that every single case of cancer where the disease is accessible to the surgeon is curable in the early stage, for cancer is at first a local disease. It is quite obvious, therefore, that the future success of surgery very largely depends upon the education of the public in these matters and of a clear recognition of the fact that their only fear should be the fear of delay."

Radio-therapy

Radium, in the treatment of cancer, is used in two forms, first as a salt of the element, mainly radium bromide, or sulphate, which in appearance resembles white pepper, and second, in a solution of the salt from which an emanation or gas called radon is produced. The dose in each form can be accurately measured and is usually referred to as so many milligramme hours or millicurie hours of radium.

For use in treatment the radium salt is put up in needles and other containers. In this form it is inserted into or about the growth or is attached to moulds made of wax or sawdust (such as Columbia paste) and other applicators, and thus applied to the growth. Heavy doses, designated teleradium, are given in the form of a "bomb" or pack containing from one to four grammes of radium. Radon is used mainly in the form of glass or gold "seeds," which are inserted into the growth. The advantages and disadvantages of the respective uses of these two forms of irradiation are discussed in Appendix D.

The effect of radium element, of the emanation and of high-voltage X-rays, is much the same, and preference for one or the other is chiefly a matter of convenience, accessibility of the growth, and personal experience of the operator. For the treatment of tumours the hard or gamma rays are used, the softer rays being cut off by a filter of lead, platinum or other metal. The reason why these rays, in appropriate dose, destroy cancer cells, and at the same time have a minimum effect upon normal cells of the body, is largely because the cancer cells are in a constant state of division and are, consequently, more sensitive to the rays than normal cells. In addition to this, the rays are believed to have a stimulating effect upon the surrounding tissues, which contributes to their resistance against cancer.

The gamma rays are the ones used for irradiation. The container absorbs all the alpha rays, and the beta are screened off by 0.5 of platinum or other metal. This will ensure pure gamma irradiation. The absorption of alpha and beta rays is qualitative and does not vary with the intensity of the source and for protection the thickness of screen must correspond with the increase of element source. Thus, for 0.5 grammes of radium 6 centimetres of lead are required, while with 2 grammes, 12 centimetres are necessary.

The "Bomb."

The Eighth Report of the British Empire Cancer Campaign expresses caution in the use of a bomb of four grammes of radium such as that in use at the Westminster Hospital Annex. It is said to be dangerous, producing rapid dimunition of the blood cells after from twenty-five to thirty hours' treatment. A small decrease in the red cells is produced, but the white cell count falls from 7,000 to 3,000 or less, the lymphocytes being particularly affected. On the other hand, small exposures over a long period cause a definite increase in the white cell count. The damage is not irreparable; a period of rest is followed by a return to normal. Experience at the Memorial Hospital, New York, at the Villejuif Hospital, Paris, and at the Radiumhemmet, Stockholm, is favourable to the use of the "bomb."

The Times of February 9th, 1932, carries a letter signed by Mr. Stanford Cade and five other medical men protesting against the withdrawal of the "bomb" from use in the treatment of cancer cases and urging the immediate appointment of a committee of enquiry to consider how best to advance radiotherapy. The letter points out that certain types of cancer are better treated by the bomb than by any other means. This view and the opinions quoted on this subject elsewhere in the report, indicate that the value or otherwise of the use of large amounts of radium in the treatment of cancer, is by no means settled. Time and further experience alone will definitely solve this problem.

Sources of Radium

The chief source of radium at present is the Belgian Congo. There are deposits of uranium in Czechoslovakia. Discoveries of radium-bearing pitchblende have been made along the east shore of Great Bear Lake and northeastward to Coronation Gulf in the Canadian Northwest, 800 miles from railhead.

Great Bear Lake lies on the Arctic Circle east of the Mackenzie River. The pitchblende deposits are present in an area centreing around Echo Bay on the south shore of the lake. The geological features of the area have been studied by Kidd of the Geological Survey of Canada (Canadian Mining Journal, January, 1932), by Knight (Canadian Mining Journal, October, 19th 1930), and others. These, as well as Spence of the Canadian Mines Department, furnish authentic descriptions of the location and extent of the discovery. According to Spence this is "the most important mineral discovery in many years. Two veins have been proved over a combined length of 2,000 feet, and pitchblende has been found at several points over a distance of two miles. Samples of the ore show one gramme of radium to between six and one-half and thirteen tons of ore." Referring to the suggested monopoly in radium, he said, "that if there were any such monopoly it would soon be broken by Canadian output." (Press report.)

Referring to these deposits, Labine (Northern Miner) says: "The pitchblende vein varied in width from one-half an inch to eighteen inches of massive ore; in pit No. 6, open cut thirty-five feet long, the pitchblende averaged ten inches wide for this length. A sample cut across twelve inches in the south end of this open cut assayed 1,210 ounces, and a further channel sample cut in the centre of the open cut assayed 503.35 ounces, across a width of sixty-six inches. The deposits of pitchblende are associated with rich deposits of silver and other minerals and the results for last year's operations have demonstrated beyond any doubt, that a large tonnage of rich pitchblende ore is available for the production of radium."

Regarding the deposits in Ontario, Burrows, Geologist to the Department of Mines, says:

"The property of the Ontario Radium Corporation is situated a few miles east of Wilberforce village in Haliburton County. The geological occurrence is that of a series of pegmatitic dikes cutting granite gneiss, and located on a high ridge south of the railway. Several pits and trenches have been cut into the dikes and gneiss along the trend of the deposit. The radium-bearing mineral uraninite occurs in nodular and crystal form as a constituent of the dikes or with the later minerals that have followed the intrusion of the pegmatites. Uraninite in small pea-like inclusions and up to masses of several pounds have been found over several hundred feet along the strike. The uraninite occurs with various minerals of the dikes, like feldspar, hornblende and magnetite, and also with apatite, fluorite and calcite. The dark-coloured purple fluorite is reported to be radio-active, being called radium-fluorite. Owing to the irregular occurrence of the uraninite, it is impossible to sample the rock by ordinary channels, and the best method is by mill tests. A shipment of thirty-six tons sent to the Ottawa Laboratory gave concentrates of uraninite and other heavy minerals and was satisfactory. A small mining plant was installed and a tunnel driven southerly to intersect the several dikes known on the surface and uraninite was found in a number of these. One surface showing above the tunnel was particularly good. A small concentrating plant has been erected and concentrates are to be made. I am not aware what further treatment would be given the concentrates. This consists of an elaborate chemical process to obtain radium salts. The deposit is attractive and requires pioneer work and experimentation, and the directors deserve praise for the effort. The deposit is large and the work now being done should show just what percentage of radium-bearing minerals can be recovered."

A gramme of radium is now worth about $70,000 and there is only about one pound available in all the world's hospitals. New York City has about sixteen grammes. There are about sixteen grammes in use in Canada. At present prices about $200,000,000 worth is urgently needed throughout the world for the war on cancer. In view of the prospects of gaining an adequate supply from Canadian sources, the purchase of large quantities by the government of Ontario requires most careful consideration.

Both X-rays and radium in excessive doses are very dangerous. Those in charge of treatment must use the greatest care in prescribing the dosage used and in adopting safeguards necessary for the protection of both workers and patients. The use of irradiation, whether from X-rays or radium, demands prolonged experience and meticulous care. It is a form of treatment that can best be successfully and safely carried out in an institution established for the purpose, in the hands of skilled operators; it is not one for the general practitioner. Everywhere this fact was impressed upon the Commission. The rays of radium and the X-rays are invisible, potent agents for good when properly used; they are dangerous in the hands of persons unskilled in their use.

X-rays.

X-rays have great penetrative power, but with the voltages used at present, not so great as that of the gamma rays of radium.

Up to recent date the main field of the use of X-rays has been diagnosis, particularly in connexion with fractures, dislocations and other affections of the bones and joints, in the diagnosis of pulmonary conditions, and in ulcerative and obstructive conditions of the abdominal cavity. The X-rays are also used for therapeutic purposes, especially for certain superficial skin cancers and for such non-malignant conditions as goitre.

In treatment of cancer by X-rays a high voltage is used. The rays must be strong enough to penetrate to the deeper parts. For the purpose of deep

X-ray therapy the common voltage is from 180,000 to 220,000. Apparatus has been developed to produce a million volts or more, but such strengths are not yet in practical use.

The deep X-rays are similar in their effect to the gamma rays of radium in the treatment of cancer. Some operators use X-rays alone, others use them in selected areas such as the abdominal cavity where the parts are more or less inaccessible to the use of radium. Both X-rays and radium are used as auxiliaries in the treatment of growths. They may be used before operation or after operation.

There is a difference of opinion in respect to the dosage of X-rays and radium. Some operators employ a large dose over a short period, others a moderate dose over a long period, with, apparently, similar results.

The X-rays, while remarkable agents for good, are none the less extremely dangerous both to operator and patient unless the most rigid precautions are taken. The rooms containing the high-voltage machines are carefully protected by leaded walls, and operators carry on their observations of the patients under treatment through leaded glass windows.

A more complete discussion of these agents appears in Appendix D.

Section II

USES AND LIMITATIONS OF RADIO-THERAPY

USES AND LIMITATIONS OF RADIO-THERAPHY

The use of radio-therapy is not confined to the treatment of malignant diseases alone. In certain regions of the body radium, and in others X-rays, are among the most effective agents in the treatment of cancer. Radium in addition is of the greatest value in a large group of non-malignant diseases, while in a few it is almost a specific. The action of radium on living tissue may briefly be summarized as follows: (Richards, Canadian Public Health Journal, July and August, 1931).

1. Immediately following a mild dose of radium or X-rays on living tissues there is an increase in cell activity, i.e., a stage of stimulation.
2. If the dose be prolonged either in intensity or time, there is a stage of arrest of cell activity. This may be described as the stage of over-stimulation.
3. If this dose also be exceeded either in time or intensity, there is a stage of destruction and degeneration of the cells.

Among the non-malignant affections which respond to radio-therapy are: naevi of the skin where the results of radium are eminently satisfactory, angiomata, where the implantation of radon seeds is much superior to other methods of treatment, and chronic myeloid leukaemia for which radium is applied over the spleen and X-rays to the marrow-forming bones. The patient with chronic lymphoid leukaemia frequently gains much benefit from X-ray and radium treatment. In pure exophthalmic goitre or thyroid toxicity without adenoma, the percentage of clinical cures from X-rays and radium is between seventy and eighty per cent. In toxic adenoma the toxicity is usually reduced. In the disturbances of the menstrual function in younger subjects X-rays frequently restore the normal balance, while in bleeding at the menopause radium is a most effective method of treatment. The bleeding from fibroids of the uterus may readily be controlled by radium. The smaller fibroids usually disappear completely under this treatment, and the larger greatly benefit. The keloids of scar-tissue respond to the use of both radium and X-rays but in pigmented moles radium is not a suitable treatment as there appears to be a definite risk of inciting malignancy by its use.

Among malignant growths treatment of rodent ulcer by radium is usually effective so long as the disease is limited to the skin. Epitheliomata of the skin require a heavier dose of radium, but with suitable dosage the vast majority, if taken early, are cured. In the lip, tongue, buccal cavity, tonsils, and upper part of the pharynx a high percentage of cases are susceptible of cure. In cancer of the oesophagus and stomach the results of irradiation are disappointing and the same may be said of cancer of the colon and rectum.

In cancer of the body of the uterus the results of treatment (see Burnham, Forssell and others) compare favourably with those of surgery. The irradiation treatment of cancer of the uterine cervix is probably better understood and on the whole more successful than in any other of the malignant fields. This subject is further discussed under Results of Treatment.

In cancer of the breast early and small tumours may be removed by radium. In pre-operative treatment, radium alone or in combination with X-rays is of much value. As a post-operative measure X-rays are the more commonly used in prophylaxis; the use of radium is more effective *in recurrences* of the disease.

In cancer of the bladder and prostate the use of irradiation is still in the period of transition. In cancers of the thyroid, which are fairly radio-sensitive, the results justify the use of radium packs and high-voltage X-rays.

In sarcomata there are two extremes in the type of cell. The lympho-sarcoma is extremely sensitive to radio-therapy while osteogenic sarcoma is very resistant. The former frequently disappears with astonishing rapidity after radio-therapy but permanent cures are difficult of attainment owing to its tendency to rapid dissemination throughout the body.

In the osteogenic type no cures are reported. Mediastinal sarcoma and "Hodgkin's" disease often disappear under the influence of radium or high-voltage X-rays and many of these results are permanent. (Richards.)

With the advance in knowledge of the capabilities of radiation therapy, with greater experience in its use, and with the possible employment of still higher voltages of the X-rays, the field of treatment by radio-therapy, even now very extensive, may reach much wider proportions.

In conclusion it may be said that up to the present *no cancer cure* has proved of definite value except surgery, high-voltage X-rays and radium. (Kaplan, American Journal of Cancer, January, 1932.)

Section III

CONDITIONS NECESSARY FOR CARRYING OUT SATISFACTORY RADIO-THERAPY IN CANCER

CONDITIONS NECESSARY FOR CARRYING OUT SATISFACTORY RADIO-THERAPY IN CANCER

The views of the highest authorities on this subject coincide to a remarkable degree. They are nowhere better expressed than in the words of Dr. Gösta Forssell, Director of the Radiumhemmet. He asks the question: "Why has radio-therapy, and particularly radium-therapy, in most parts of the world produced such poor results, that the capacity of radio-therapy to effect a lasting cure in malignant tumours has been generally doubted?" and goes on to answer it as follows:

"The chief cause of this is, in my opinion, the splitting up of radio-therapy which has occurred in most places. Radium has been distributed for use in various clinics without any proper control as to whether sufficient experience existed there, either in respect to radium or Roentgen therapy, and without sufficient resources always being available to carry through radio-therapy in a satisfactory manner. The treatment, and the following up of the results of the treatment by Roentgen rays in one and the same case, have also not infrequently been split up amongst many hands, so that the same medical man has not looked after the radio-therapy and been responsible for the issue.

Until quite recently the arrangements for the radio-therapy of tumours were not properly organized. Cancer patients in need of radio-therapy were sent, either to radiological institutions which were best equipped for radio-therapy, or to surgical clinics which were earlier the only clinics able to afford any help in cancer. The radiologists, however, had often not a great deal of experience in the clinical pathology of tumours and did not possess their own clinics for the study of radio-therapy of tumours. The surgeons, on the other hand, had often neither sufficient knowledge and training in radio-therapy, nor the necessary resources for carrying out the same.

In the combined surgical-radiological treatment of tumours the surgical interference has been looked upon as of main importance, and radium or Roentgen treatment as a more or less negligible adjunct. In reality radio-therapy is the chief treatment in all those cases of cancer where the tumour cannot be removed with safety by a cut in sound tissue. The skill in its use decides the patient's fate. Surgery is in these cases only an auxiliary, although often a very important one. This circumstance has not been clearly understood hitherto, and until it is, the combined surgical-radiological treatment is doomed to failure.

To this must be added another important circumstance. A surgeon, who only deals with radio-therapy as a side-line, is mostly, as a matter of course, chiefly interested in surgery, and, possibly, in radium application during operation. All the rest of radio-therapy of malignant tumours, comprising about seventy-five per cent. of the entire scope of radio-therapy, is of minor interest to him.

The surgical clinics have their special task, to take care of the patients who need surgical treatment. They want for this purpose all their accommodation. Experience also goes to prove that the patient must often be discharged from the surgical clinic immediately after healing has occurred after an operation, without regard to the requirements of radio-therapy, for he then encumbers a bed which is so necessary for other patients. Even during the periods of radiological treatment prior to operation, it is difficult to find accommodation for the patient in the busy surgical clinics. It has, therefore, frequently been impossible to carry through effective radio-therapy, or during or after treatment to supervise the patient in a satisfactory manner.

Experience in Sweden, as elsewhere has gone to prove that only at well-equipped special clinics has success been gained in improving and developing this method of treatment, so as to reach results which actively complete surgery, and in certain spheres extend beyond its scope.

In order to obtain perfect treatment at a radio-therapeutic clinic for cancer patients, it is necessary that it should be in charge of specially qualified medical officers, who have undergone a long training and devoted themselves to radio-therapy, and have plenty of time not only for the current work but also for scientific studies. This is all the more necessary since the techniques of radio-therapy are in course of experiment, so that this treatment in several directions may be said to be in an early stage of development. In order to be able to gain sufficient experience in respect of cancerous diseases and the special technicalities of treatment of various forms of tumours, and different localizations of tumours a radio-therapeutic section should have beds for a comparatively large number of patients.

Well-equipped, expensive laboratories are necessary for Roentgen and radium treatment. Large quantities of radium are necessary to enable tele-radium treatment. Thus, for a department of twenty-five beds, according to the experience gained at the Radium Home, a quantity of at least two grammes of radium is required if the resources of radium-therapy are to be fully utilized. In order to gain the utmost benefit from this expensive and precious medicine it is, on the other hand, necessary for the number of beds at the radio-therapeutic clinic to be so large that the radium can be in constant use.

For radio-therapy a comparatively large and specially trained nursing staff is required: nurses, technical assistants and servants. In the training of the staff and in organization, regard must be taken not only to the special technicalities of treatment and nursing, but also to the protective techniques and the care and superintendence of the radium.

The work must be organized in consideration of the risks taken by the staff, and the staff must be large enough to allow of sufficient leisure and a proper distribution of work. In fact, irradiation not only frequently extends over a fairly long period, during which the healing must be watched, because the minutest remnant of the disease spells risk of a recurrence, but also the treatment cannot on account of the course of the disease be finally judged until after the lapse of a great length of time. By reason of these circumstances, supervision, observance and control of the patients during and after the period of treatment are a *sine qua non* at an institution for radio-therapy of cancer. The work of supervision calls for a special organization, with its own staff and its own premises.

For scientific control of Roentgen and radium irradiation at a radio-therapeutic clinic, a radio-physical section is imperative under the supervision of a physicist, and for the diagnosis of tumours and the scientific elaboration of the observations made, the clinic requires a pathological laboratory under the supervision of a tumour pathologist.

Organized co-operation must take place between the surgical clinic and its special departments on the one hand and the radio-therapeutic clinic on the other.

As a rule, according to our experience, it is best for radical operations and such auxiliary interferences as call for a great deal of surgical skill, to be entirely performed at the surgical clinic. Minor operations and most of the endothermic operations, can, and should, on the other hand, be performed at the radio-therapeutic clinic. It is, therefore, necessary for one or more of the medical officers at the latter to be trained in surgery, as well as to have undergone special training in radio-therapy.

A medical man who devotes his services to the radio-therapeutic clinic must, however, forsake general surgery, because radio-therapy necessarily occupies all his time.

At the Radium Home co-operation with our foremost surgeons has taken place, to the entire satisfaction of all parties.

The need of this co-operation between surgery and radio-therapy entails, however, the consequence that the radio-therapeutic clinics must be attached to big clinical hospitals, in the most intimately possible conjunction with the surgical clinic and its special departments.

On account of the vast number of cancer patients gathering at the radio-therapeutic clinic, the surgical clinic will simultaneously develop into a special clinic for tumour surgery, and the surgeons will acquire a great deal of experience in operations combined with radio-therapy and its activity. At the same time the surgical clinics will get rid of cancer patients during the period when the latter are not in need of special surgical treatment."

Section IV

RESULTS OF TREATMENT OF CANCER

RESULTS OF TREATMENT

Brief reference to results of the treatment of cancer appears here and there throughout the foregoing account of the Commission's investigations.

A more extended, but necessarily limited statement follows:

In the reports of the various national radium centres published by the Medical Research Council (1931) the results of radio-therapy are summarized as follows:

Cancer of the Breast

At the Middlesex Hospital the best results were obtained with radium used at a distance of six centimetres. In the early stages cancer of the breast appears to be usually responsive to suitably placed radium therapy. Death of patients is due to distant metatases. In almost all cases there has been a great local improvement or in disappearance of the primary tumour.

Cancer of the Uterus

In cancer of the cervix the Stockholm or Paris techniques are used. At the London Hospital high-voltage X-rays are used only for recurrences. Radium is used in cancer of the body of the uterus. Of forty-one patients treated since 1925 thirty-one are now living.

Cancer of the Mouth, Nose and Throat

At the Birmingham General Hospital treatment has been given to 122 patients, with forty-three clinical cures, eight improved, seventeen not improved, and fifty-four deaths. Clinical cures have been obtained in the following percentages: tongue (anterior 2/3), thirty-two; (posterior 2/3), twenty-four; floor of mouth, fifteen; cheek and lip, fifty-two. In the throat the most hopeful sphere for radium proved to be extensive septic, inoperable growths of the pharynx and hypopharynx, which tend to invade the larynx. Radon was preferable to radium on account of the retching and discomfort due to the strings which are attached to the needles in the use of radium. Cancer of the oesophagus has proved disappointing, but one case showed improvement after eight months.

Cancer of Rectum

At the Birmingham General Hospital, fifty cases have been treated, a preliminary colostomy being usual. Unsatisfactory results are attributed to the fact that rectal cancer is more resistant than squamous epitheliomata of the mouth. Attention is drawn to the possibility of inoperable cases becoming operable as a result of radium therapy.

Cancer of the Bladder

All the cases were advanced and while none were cured, symptoms were relieved for from six to eighteen months. It was found that a large haemorrhage, however severe, could be controlled by a large dose of radiation of the malignant mass.

Brain Tumours

At the Royal Infirmary, Manchester, five cases of hemispherical glioma were treated by external radiation. Two of the patients are in good health and able to work, two are dead, and one is a complete invalid. The gliomas appear to be especially radio-sensitive.

Sarcoma and Lympho-sarcoma

Good results were obtained in fifty per cent. of cases of spindle-cell sarcoma, in forty-one per cent. of round cell sarcoma, and in twenty-five and one-half per cent of lympho-sarcoma.

Burnham, quoted by Richards, pages 390, 391, Canadian Public Health Journal, July and August, 1931, gives the comparative results of treatment of cancer of the uterus by various methods as follows:
Body of the Uterus—

Cases treated by operation alone—

Total cases	11
Living and well after five years	50 per cent.

One case lost sight of which, if excluded, would leave the five-year cures sixty per cent.

Cases treated by radium alone—

Total cases	46
Living and well after five years	55 per cent.

Excluding those known to have died of other causes than cancer, the cure rate is sixty-nine per cent. If the cases dying of other causes than cancer and with no evidence of cancer are placed in the cured list, the *cure rate* would be seventy-four per cent.

Cases treated by radium and operation—

Total cases	11
Living and well after four years	55.5 per cent.
Excluding one case lost sight of	62.5 per cent.

In summing up these results Burnham says:

> In operable cancers of the body of the uterus, radiation offers a method of treatment comparable to the best surgical treatment in its permanent results. It obviates to a large measure at least primary mortality and is applicable to a large number of patients who are bad surgical risks. Radiation offers a possibility of cure in a considerable percentage of inoperable and recurrent cancers of the body of the uterus.

Cervix of the Uterus—Heyman.

From the standpoint of radiation therapy in this disease, there have been two schools, one making use of radium alone and a second, chiefly in Germany, using deep X-ray therapy alone. Finally, as was to be expected, these have been combined, and in a recent article by Heyman of the Radiumhemmett, Stockholm, a comparison of results is given from which the relative value of the use of radium alone or the combined treatment may be drawn.

These figures are as follows: Inoperable cases, radium only, 9.4 per cent. of cures; combined treatment, 17.6 per cent. of cures; operable cases, radium only, 42.8 per cent. of cures; combined treatment, 52.1 per cent. of cures. It will thus be seen that the addition of high-voltage X-ray therapy to the use of radium in these cases is responsible for approximately a ten per cent. increase in cures, and this is the method which is at present being followed as a routine in the Radiumhemmett. It also may be taken to indicate that the possibility of cure in a reasonably early carcinoma of the cervix is fifty-two per cent., while if the disease is unrecognized until a later stage this falls off very rapidly and is about seventeen per cent., a further plea, if any were necessary, for early, accurate diagnosis and adequate treatment of all cases of carcinoma of the cervix.

In the Cardiff, Wales, clinic, the following results were obtained in 153 cases of cancer, treated since 1922:

	Total cases treated	Alive	Percentage alive
First Treatment:			
Over 5 years ago	25	0	0
" 4 " "	43	3	6.9
" 3 " "	72	5	6.9
" 2 " "	98	8	8.1
" 1 " "	117	14	12.1
Less than 1 year ago	153	40	26.5

A comparison between the results of surgery and radium may be gained from the following tables:

RADICAL SURGICAL TREATMENT OF CANCER OF CERVIX

Clinic	Total number of cases seen	Total number of cases operated upon	Primary Mortality	Relative cures	Absolute cures
			per cent.	per cent.	per cent.
Johns Hopkins Hospital	387	290	14.23	26.6	13.7
Wertheim	690	345	18	42.4	18.3
Schweitzer	443	177	6.78	51.4	19.8
Petersen	380	60	26.6	40	6.6
Collected by Duncan, 1921	5,027	3,151	3.54	19.3	11.72
*Bonney	420	265	14.9	39.6	25

*Includes 21 cases lost sight of.

RADIUM TREATMENT OF CANCER OF CERVIX

Clinic	Total number of cases treated	Primary Mortality	Relative cures of operable cases	Absolute cures
			per cent.	per cent.
Radium Institute, Paris	450	....	80.5	26.2
Radium Institute, London	350	....	20	12.5
Women's Hospital, New York	196	2	....	23.6
Memorial Hospital, New York	578	nil	41	18.5
Doderlein	755	6	43.6	14.3
Bumm	805	....	28.3	15.27
Howard A. Kelly	500	nil	50 (31% border)	11
Radiumhemmet, Stockholm (Heyman)	737	1.19	All inoperable	23.1

At the Radium Institute, Villejuif, the following results accrued from the use of radium and X-rays:

STATISTICS—WICKHAM

	Cases treated	Deceased	Alive, not cured	Cured
1921	11	9	....	2
1922	26	18	....	8
1923	24	19	1	4
1924	31	21	2	8
1925	30	16	3	11
	122	83	6	33

Per cent. cures, 27.

The percentage of absolute cures obtained from the use of radium and surgery do not vary very greatly (twenty to twenty-five per cent.).

Eminent surgeons, such as Victor Bonney of the Middlesex Hospital, London, claim that more cases would be saved if all patients whose growths are removable were operated upon by an expert in gynaecology and the remainder treated by radium, than by the use of radium alone.

"On the other hand, the radiologists advance numerous arguments in favour of the radium treatment of carcinoma of the cervix uteri as opposed to the surgical treatment.

1. Statistics are on a par (certainly in no way inferior) with those following operation (hysterectomy).

2. The almost negligible mortality due to radium is contrasted with the operation mortality of the young gynecologist while he is perfecting his technique of Wertheim's operation.

3. The technique of hysterectomy has now reached its limit even in the most expert hands. To improve the surgical results a technique which aims at removal of more affected tissue must be devised. Since the present surgical mortality is due to the extensiveness of the operation, this is unlikely.

4. Radium treatment, however, is only in its infancy (first used in carcinoma of the cervix twenty-two years ago). The prospects of further development and consequent improvements in the technique are great.

5. In the length of time the patient is in hospital and the freedom from pain after its use radium has a great deal to commend it.

6. The psychical effect of a major operation (with its mortality rate) as opposed to treatment by radium acts adversely in regard to the patient reporting for treatment at an early stage of the disease.

7. In cases where for other reasons operation is contra-indicated, radium is the only method of treatment available, while as a palliative measure in advanced cases there is no treatment whatever which is so beneficial.

8. Finally, the further use of intraperitoneal radium or radium at a distance may with time show either to be a great adjuvant to present methods.

For these reasons, the radium workers claim that in cases of carcinoma, hysterectomy should be abandoned in favour of treatment by radiation."

—Porter.

Dr. John Fraser, Regius Professor of Clinical Surgery, University of Edinburgh, discusses (Newcastle Medical Journal, January 1931), the results of treatment in buccal cancer by (1) operation, (2) radiation, and (3) radiation combined with operation.

Operation. This class comprised sixty-eight cases and no radium or X-ray application was used. These cases were placed in two classes, (*a*) those without (forty-two cases), and (2) those with (twenty-six cases), glandular invasion. The results in these cases were as follows:

TABLE I

Total	Cured	Recurred	Died	Untraced
68	16 (23.5%)	31 (45.5%)	20 (29.4%)	1

Divided into the groups (*a*) without glandular invasion, and (*b*) with glandular invasion, the results were as follows:

TABLE II

	Total	Cured	Recurred	Died	Untraced
Gr. A..................	42	15. (35.7%)	17. (40.5%)	9. (21%)	1
Gr. B..................	26	1. (3.8%)	14. (53.8%)	11. (42.3%)	

The duration of the cure runs from 1½ to 10 years.

Radium Treatment

With respect to radium treatment Dr. Fraser goes on to say: "Neither case numbers nor time intervals are sufficient to make our figures of real value, but, as observers who have been interested in the subject for a considerable time, and as investigators who are groping from darkness into what I hope is a fuller light, our experience may be of interest, if not of real scientific value."

He divides his radium experience into two epochs, early and late.

The early epoch was characterized by treatment of the buccal lesion by the method of interstitial radiation, using a relatively small dose (350 to 1,000 milligramme hours), the glandular areas being treated by radical block dissection. The results were as follows:

TABLE III

SMALL DOSAGE GROUP—350-1,000 MILLIGRAMME HOURS

Interstitial Method

Healed..	10%
No change..	20%
Temporary relief followed by recurrence..............................	40%
Local condition aggravated..	30%

These local results gave great disappointment because of an insufficiency of dosage and of an error in the technique of administration. The later cases were dealt with by means of heavy dosage (5,000 to 10,000 milligramme hours), and the radiation secured by means of surface application. On this basis the group of figures in Table IV were obtained:

TABLE IV

Results of Treatment of Local Lesion

Surface radiation and heavy dosage (5,000-10,000 milligramme hours):	
Local lesion healed	86.6%
Local lesion *statu quo*	6.6%
Died during course of treatment	6.8%

A heavy surface dosage, with the minimum of damage and destruction to the part, appears to offer the best prospects of a satisfactory result.

Again Dr. Fraser says: "I believe it will ultimately be found that the degree of cell resistance is in relation to the amount of keratin which the cell contains; that full keratinization, with its associated cell nest formation, is a phase of cell change which is peculiarly resistant to radio-therapy."

He feels that the most satisfactory way of dealing with the lymphatic field is to submit it to a radical block dissection elimination. If this is out of the question, interstitial radiation, using a large dosage, is the proper procedure.

Comparing the results of the treatment of cancer obtained with radium alone, with surgery alone, and with the two in combination, Lord Moynihan (American Society for the Control of Cancer, July, 1931) says:

"The surgeon's knife in the most highly trained hands is an instrument of great delicacy, but it cannot always discriminate between healthy tissues and diseased tissues. Radium is an instrument of far greater delicacy, because its action is selective, that is to say, it acts differently upon the diseased and healthy tissues, killing the one and leaving the other. The difficulty of its application sometimes lies in obtaining access to the diseased parts when they are inside the body and in placing it in close relation to every particle or cancerous tissue where access has been obtained. Great advances have been made, and it is now true to say that certain mutilating operations have been virtually abolished, as, for instance, those concerned with the treatment of cancer in the mouth or on the tongue. The future of radium as a therapeutic agent might therefore appear to be assured.

Radium will gradually encroach more and more upon the field of surgery, but it can never entirely replace surgery since it is not everywhere applicable. Where radium is applicable, its effect will always depend upon early diagnosis of the disease, so that greater success can only follow upon greater readiness of patients to present themselves for examination and upon the increasing skill of the medical profession in diagnosing the disease. It is a fair claim to make that the results up to the present are encouraging, but in the treatment of cancer we must always take the long view and must seek to know what results are found not in a few months' time, but at the end of not less than five years.

The desire for methods other than those which authority advises is as ancient as time. The sufferers from cancer are still beguiled by ignorant quacks and are too often encouraged in their beliefs by fraudulent advertisements or by irresponsible journalists.

The future of surgery depends therefore not so much upon any advance in craftsmanship, for that is hardly possible, but in the making and cementing of alliances with auxiliary sciences and, perhaps above all, with the science too much neglected to-day, the science of biology. It depends in a large measure also upon the enlightenment of the public and upon their seeking advice in the early curable stages of diseases rather than in the late and incurable stages."

As an example of the results of surgery in cancer of the cervix of the uterus, the figures given by Mr. Victor Bonney (London), from his own cases are representative of the best type of surgical work. He says:

"Between 1907 and the end of December, 1927, I had, with an operability rate of sixty-three per cent., performed Wertheim's operation 351 times. There were fifty-three deaths due to the operation, an operative mortality of 15.1 per cent. Of the 298 patients who survived the operation, 139 have died of recurrence, thirteen have died of other diseases, thirty have been lost sight of, and I am still in touch with 116, of whom sixty-four have passed the five-year limit, and fifty-two have been operated on at periods less than five years ago. The number who survived five or more years after the operation is ninety-five, of whom sixty-four are still under supervision, eight died of recurrence more than five years after the operation, six died of other disease more than five years after the operation, and seventeen were lost sight of more than five years after the operation. Of these ninety-five patients, forty-three have survived the operation for more than ten years, one of whom has survived it twenty years."

(*International Conference on Cancer, London, 1928.*)

Respecting the future of radio-therapy, Professor Forssell (1929) says:

"Finally, we have reached the question of the future possibilities of the development of radio-therapy in the treatment of malignant tumours. It is then obvious that the development and progress of radio-therapy must be greatly restricted by the fact that, at least with the present technique, it is mainly a method of local treatment, whereas cancer, by reason of its nature; in a short space of time spreads throughout the body. Radio-therapy can, therefore, never become a universal agent or panacea in the treatment of cancer. Its healing capacity is restricted to tumours confined to limited localities, accessible for irradiation.

A vast field for the further development of radio-therapy is the combined surgical-radiological therapy. Here the task of radio-therapy is to reduce the size of the tumour and better, to limit the same from its surroundings by irradiation prior to operation, and also to weaken the vitality of the tumour, thus diminishing the risk of local re-implantation, or spreading of the tumour through the operative interference. Its further task is, after the operation, to attack any possibly remaining parts of the tumour and to sterilize the adjacent glandular region. In the further development and progress of combined therapy the possibility must, ultimately, be taken into consideration that the radiological healing process, which is called forth through the pre-operative irradiation, may produce increased resistance on the part of the organism against the cancer disease. An important condition for the development of the combined therapy, is organized co-operation between radio-therapy and surgery.

A *sine qua non* for the improvement and development of radio-therapy is finally, properly organized research and tuition in the field of radio-therapy in cancer and within the sphere of cancer biology. The only prospect of attaining this is, again, the establishment of radio-therapeutic clinics, equipped with laboratories for research and means for the same. These clinics must be arranged in conjunction with large hospitals, so that radio-therapy may be given an opportunity for constant and intimate co-operation with other practical and theoretical spheres of medicine. The sums which are nowadays being collected for the purchase of radium will be largely wasted, and unexpected disasters will occur, both for patients and for the staff, unless simultaneously with the money for radium, money is also provided for the establishment of clinics perfectly equipped for radio-therapy. Radium is a very important agent in the struggle against cancer; but radium is unable to cure a patient. For the latter purpose it is absolutely necessary to have well-equipped and organized special clinics; and, chiefly, very able physicians, who possess the necessary skill, knowledge and experience, and who are willing to devote life and soul to radio-therapy."

THE RESULT OF COMBINED SURGICAL-RADIOLOGICAL TREATMENT OF CANCER OF THE BREAST IN THE CASES TREATED AT RADIUMHEMMET IN THE YEARS 1921-1923
(Observed 5-7 Years After the Treatment)

Treatment	Total No. of Cases Treated	Cases Alive and Free from Symptoms 5-7 Years	Cases Divided Up in Accordance with Steinthal's Classification							
			Group I		Group II		Group III		Group IV	
			Total	Free from Symptoms	Total	Free from Symptoms	Total	Free from Symptoms	Total	Free from Symptoms
Operation: +Post-oper. irradiation	75	22=29%	10	6	55	16	10	0	65	22=34%
Pre-oper. irradiation: +operation: +Post-oper. irradiation	45	18=40%	8	6	31	11	6	1	39	17=44%
Electro-endothermy: +Post-oper. irradiation	42	12=29%	2	2	14	6	26	4	16	8=50%
Total..........	162	52=32%	20 12%	14=70%	100 62%	33=33%	42 26%	5=12%	120	47=39%

PERCENTAGE OF FIVE-YEAR CURES BY SURGICAL TREATMENT OF CANCER OF THE BREAST IN SCANDINAVIA

	Authors					
	Dahlgren	Neander	Brattström	Nystrom	Siirala	Kalima
Percentage, five-year cures....	15%	16.8%	25.5%	20–23%	18%	24%

FINAL RESULTS IN CANCER OF THE MOUTH

Total Number of Cases at the Radiumhemmet, 1916-1921

	1916-1925		1916-1923		1916-1921	
	No. of Cases	Free from Symptoms 1 Year or More	No. of Cases	Free from Symptoms 3 Years or More	No. of Cases	Free from Symptoms 5 Years or More
Radiological treatment only:						
Cases without glandular metastases...............	88	31 (35%)	78	26 (33%)	68	21 (31%)
Cases with glandular metastases....................	72	0 (0%)	58	0 (0%)	45	0 (0%)
Total..............	160	31 (19%)	136	26 (19%)	113	21 (18%)
Combined surgical and radiological treatment:						
Cases without glandular metastases...............	57	43 (75%)	36	29 (80%)	17	11 (65%)
Cases with glandular metastases....................	27	10 (37%)	20	7 (35%)	5	5 (40%)
Total..............	84	53 (63%)	56	36 (64%)	22	13 (60%)
Total..............	244	84 (34%)	192	62 (31%)	135	34 (25%)

The following tables indicate the comparative results of radiological and surgical treatment of malignancy in Sweden.

TABLE I—PERCENTAGE OF FIVE-YEAR CURES AFTER RADIOLOGICAL TREATMENT OF MALIGNANT TUMOURS IN CERTAIN LOCALITIES

Only Radio-therapy

(Results Obtained at Radiumhemmet)

Cases Treated Between		Total Number of Cases	Cases Cured	
			Number	Percentage
1910-1915	Carcinoma cutis:			
	Total number of cases treated	207	142	69
	Operable cases without glandular metastases	182	142	78
1910-1917	Carcinoma labii:			
	Total number of cases treated	66	45	68
	Operable cases without glandular metastases	52	45	86
1916-1921	Carcinoma oris:			
	(Ca. linguae; ca. subling.; ca. mandib.; ca. buccae)			
	Total number of cases treated	113	21	18
	Cases without glandular metastases	68	21	31
	Operable primary tumours	29	16	55
	Local recurrences	19	4	21
	Inoperable primary tumours	20	1	5
	Ca. linguae without apparent metastases	11	6	60
1914-1923	Carcinoma cervicis uteri:			
	Total number of cases examined	790	163	20.6
	Total number of cases treated	737	163	21.1
	Operable and border-line cases	188	76	40.4
1913-1921	Carcinoma corporis uteri:			
	Total number of cases examined (all treated)	46	20	43.5
	Operable and border-line cases	25	15	60
1910-1922	Sarcomata:			
	Primary tumours	238	58	24
	Recurrences after operation	154	28	18

TABLE II—PERCENTAGE OF FIVE-YEAR CURES AFTER SURGICAL TREATMENT OF MALIGNANT TUMOURS IN CERTAIN LOCALITIES

Radical Operation

	Total Number of Cases	Cases Cured	
		Number	Percentage
Nystrom's Swedish Statistics, 1911-1912—			
Carcinoma cutis:			
Total number of cases treated	140	app. 90 max. 115	app. 65 max. 76
Carcinoma labii:			
Total number of cases treated	241	max. 149	max. 62
Cases without apparent metastases	149	max. 109	max. 73

TABLE II.—*Continued.*

	Total Number of Cases	Cases Cured	
		Number	Percentage
Haggström's Swedish Statistics on Cases Treated, 1916-1921—			
Carcinoma oris:			
(Ca. linguae; ca. subling.; ca. mandib.; ca. buccae).			
Total number of cases treated	64	20	31
Ca. linguae without apparent metastases	22	9	41
Heyman's Collective Statistics, 1927—			
Carcinoma cervicis uteri:			
Total number of cases examined (from 20 clinics)	5,024	905	18
Total number of cases treated (from 24 clinics)	3,659	1,303	35.6
Carcinoma corporis uteri:			
Total number of cases examined (from 6 clinics)	318	136	42.8
Total number of cases treated (from 8 clinics)	323	190	58.8
Nystrom's Swedish Statistics, 1911-1912—			
Sarcomata:			
Total number of cases treated	317	max. 11	max. 35

TABLE III—RESULTS OF TREATMENT IN ALL CASES OF CARCINOMA OF CERVIX TREATED, 1914-27

RADIUMHEMMET, STOCKHOLM: PROFESSOR HEYMAN

SYMPTOM-FREE AFTER

Year	Number of Cases	½ Year	Percentage	¾ Year	Percentage	1 Year	Percentage	1½ Years	Percentage	2 Years	Percentage	3 Years	Percentage	4 Years	Percentage	5 Years	Percentage	6 Years	Percentage	7 Years	Percentage	8 Years	Percentage	9 Years	Percentage	10 Years	Percentage
1914	26	14	53.8	14	53.8	12	46.2	9	34.6	9	34.6	8	30.8	7	26.9	7	26.9	5	19.2	5	19.2	5	19.2	5	19.2	4	15.4
1915	40	22	55.0	21	52.5	15	37.5	15	35.5	14	35	13	32.5	13	32.5	13	32.5	12	30	10	25.0	10	25.0	10	25.0	9	22.5
1916	47	15	31.9	10	21.3	8	17.0	6	12.8	4	8.5	4	8.5	4	8.5	4	8.5	3	6.4	3	6.4	1	2.1	1	2.1	1	2.1
1917	63	34	53.9	23	36.5	20	31.7	14	22.2	13	20.6	10	15.9	10	15.9	9	14.3	8	12.7	8	12.7	8	12.7	8	12.7	7	11.1
1918	42	15	1.22	15	1.21	94	6.31	74	1.51	53	6.61	33	1.71	22	3.31	12	6.81	02	4.41	02	4.41	02	4.41	02	4.4.	..	....
1919	76	50	65.8	41	53.9	29	38.2	25	32.9	25	32.9	24	31.6	21	27.6	20	26.3	20	26.3	17	22.4	17	22.4	..	....	..	....
1920	96	53	55.2	48	50	40	41.7	32	33.4	31	32.3	29	30.2	28	29.2	26	27.1	25	26	24	25	..	....	..	....	..	....
1921	113	70	61.9	60	53.1	54	47.8	46	40.7	44	38.9	36	31.9	30	26.5	27	23.9	27	23.9	..	....	..	....	..	....	..	....
1922	132	61	46.2	54	40.9	50	37.9	43	32.6	40	30.3	34	25.8	29	22	28	20.4	..	....	..	....	..	....	..	....	..	....
1923	104	55	62.9	49	47.1	43	41.3	36	34.6	32	30.8	28	26.9	25	24	..	....	..	....	..	....	..	....	..	....	..	....
1924	148	86	58.1	75	50.7	69	46.6	58	39.2	50	33.8	44	29.7	..	....	..	....	..	....	..	....	..	....	..	....	..	....
1925	132	71	53.8	55	41.7	45	34.1	28	21.2	28	21.2	..	....	..	....	..	....	..	....	..	....	..	....	..	....	..	....
1926	140	80	57.1	69	49.3	61	43.6	..	....	..	....	..	....	..	....	..	....	..	....	..	....	..	....	..	....	..	....
1927	149	..	....	..	....	..	....	..	....	..	....	..	....	..	....	..	....	..	....	..	....	..	....	..	....	..	....

The Eighth Report of the British Empire Cancer Campaign records the following results at the Westminster Hospital. There was a survival rate of eleven per cent. after five years in inoperable cancer of the tongue; of eighteen per cent. after four years, and of twenty-six per cent. after three years.

Regaud, referring to radio-therapy in cancer of the breast (Arch. Inst. du Radium du l'Universite de Paris 2, 421–442), says:

> 1. The cure of cancer of the breast by means of radiation is exceedingly difficult. A true cure can be estimated only after a period of ten to fifteen years.
>
> 2. The variation in the thickness of the breast tissues creates conditions which further complicate the problem of irradiation.

3. Every cancer of the breast must be examined and treated by a group of the various specialties (surgery, Roentgen rays and radium). Small tumours give favourable results by juxtacutaneous curietherapy (plastic moulds). Massive tumours in large breasts are best treated by diathermic amputation associated with pre- or post-operative irradiation (X-rays or radium). Cutaneous and subcutaneous manifestation, as well as supra-clavicular glandular metastases, respond well to juxtacutaneous curietherapy, while the axillary metastases, owing to the necessity of crossfiring, are irradiated more effectively by Roentgen rays. Post-operative irradiation is indicated in all cases where the surgical removal remains incomplete.

The results gained by Zuppinger and Schinz (October, 1931, Journal of Laryngology and Otology) in laryngeal and throat cases, were disappointing. Professor Schinz states that the history and course of malignant tumours of the pharynx form the darkest chapter in the struggle against cancer. He has no doubt that in the next five years the results will be infinitely better.

In a communication to the Academy of Medicine, Paris, January 19th, 1932, Professor H. Hartmann reviews the late results in 125 cases of gastrectomy for cancer of the stomach observed for periods up to twenty-seven years. Of the twenty-five patients who showed no sign of relapse all but one had been under observation since operation for periods varying from one to twenty-seven years. Seven others died from other causes at from three to nineteen years without any return of cancer. In thirteen cases death occurred at from two to thirteen years after operation, cause unknown. In eighty patients there was recurrence of cancer; thirty-one in the first year, thirty-five in the second, eight in the third, and six in the fourth year after operation. Altogether, thirty-nine (thirty-one per cent.) survived the operation three years or more. Professor Hartmann is inclined to put at twenty-nine or thirty per cent. the proportion of his patients for whom a cure could be claimed.

Reference to the remarkable results in advanced malignant disease, reported by Carter and Cromarty, Brandon, Manitoba, indicates the value of optimism even in apparently hopeless cases. A series of 14 cases of advanced cancer were treated by surgery, electro-coagulation, X-rays and radium, used either singly or in combination. The fourteen were all apparently in good health after an average of seven years following treatment. A history of each case is given with details of treatment. (Canadian Medical Association Journal, March 1932.)

CHAPTER FOUR

RESEARCH IN CANCER

Research

In all the countries visited by the Commission, research forms an essential feature of the equipment in the fight against cancer. Cancer research is of two kinds, (1) clinical, which is concerned with the gross manifestations of the disease, its distribution, by site, age, sex, etc., and its therapy; (2) fundamental, which is concerned with the inherent biological characteristics of the disease such as its cause, pathology and vital reactions to various physical and chemical stimuli. Research workers in America, the British Isles and Europe, are exploring the physical, bio-chemical, histological, pathological and animal experimentation fields in the hope of solving the cancer problem. According to the annual report of the British Empire Cancer Campaign for 1931, more progress along these lines is now being made in a single year than in any ten-year period previously. Indeed, it is not too much to say that in certain of the investigations now under way we shall find methods leading to earlier and more accurate diagnosis of cancers in the internal organs as well as methods of promise for treatment along serological or chemo-therapeutic lines.

As to therapy we have the suggestive work of Lumsden (London Hospital), a summary of whose recent labour is also found in the British Empire Cancer Campaign, 1931 report, and who has shown that he can cure cancer in animals with his anti-cancer serum. Maisin at Louvain, and H. Cramer and Magat at Berlin, working with special tissue extracts, have shown a large measure of success in treatment of animal cancer and even some human cures. Blair Bell and his associates at Liverpool working with lead, especially organic preparations of the metal, have had much success with mice and rats and some human cures.

As bearing on cancer production and carcinogenic agents we note the work done at Manchester on mule spinners' cancer in relation to shale oils used as lubricants (Twort and others, see list of publications in 1930 report of Manchester Committee on Cancer). The work of Drs. Kennaway and Cook at the Cancer Hospital, Fulham Road, London, on the carcinogenic factors in tar and the production artificially of highly carcinogenic varieties of Anthracene are highly interesting and suggest that other agents may be similarly proven to be carcinogenic for human beings. (British Empire Cancer Campaign Annual Report, 1931.)

Along different lines is the work of Professor Otto Warburg of the Kaiser Wilhelm Institute for cell-physiology in Berlin, on the metabolism of cancer cells. Work along similar lines has been carried on by Dr. Ellice McDonald of Philadelphia and his associates.

A great deal of work is being done in many centres on both spontaneous cancer in mice and other animals and in induced and inoculated cancer in animals. These animals have provided a basis for the study of aetiology and of the bio-chemical alterations in the body. They have also been invaluable as test material for various treatments, such as testing X-ray and radium dosage, etc.

Along another line of research we have the growth in vitro of both cancerous and normal tissues and the opportunity thus provided of studying cell metabolism and of trying out effects of treatment in modifying, inhibiting or actually destroying such cell growth. Work done in cancer cell growth at the

Strangeways Research Laboratories in Cambridge, England, and at the Rockefeller Institute in New York, is particularly noticeable though similar work along these lines is done at many centres visited.

Murphy, of the Rockefeller Cancer Research Laboratory, New York, holds that in each tissue cell there is an activating growth factor, and also an inhibiting or retarding factor. He bases his recent experimental work on the theory that in cancer we are dealing with unbalanced tissue cell proliferation, while the cell proliferation of repair and of chronic inflammatory process is balanced. Thus, where injury to tissue structure occurs, cell growth is just stimulated to a sufficient extent to effect repair and when the breach is filled the retarding factor comes into play to cause cessation of cell growth. In tumours the activating factor continues to act and the inhibitors are deficient. Murphy claims that he has proof of the presence of these factors and has to some extent been able to separate them and to use extracts containing these factors experimentally for treatment of mouse cancer with considerable success. He finds the activating factor to be species specific while fortunately the inhibiting factor is not species specific so that if it can be separated and concentrated it would act as a growth inhibitor in cancers of other animals including man. There is much work yet to be done before there is any possibility of adapting this process to the treatment of cancer in human beings.

Dr. Ellice McDonald and his co-workers (of the Cancer Research Laboratories of the Graduate School of Medicine, University of Pennsylvania, Philadelphia) have confirmed the work of Warburg (Berlin) regarding the metabolism of the cells of cancer differing in certain bio-chemical characteristics from those of normal cells, e.g., in their utilization of glycogen.

McDonald refers to the association of cancer with alkalinity of the blood plasma, and points out, that, according to himself and Reding of Brussels, cancer is generally associated with a more alkaline pH* and with a diminution in the ionized calcium and even total calcium in the blood plasma. Moreover, in clinically effective treatment by X-rays and radium, there is a shift in the pH towards the relatively acid side of normal and the ionized calcium is increased in amount.

McDonald says: "It is not too much to hope that cancer cells can be restrained from division and if this is done, the cancer will lose the quality which characterizes it—its power of spreading in the tissue which depends upon multiplication by division."

He is strongly of the view that the control of cancer rests upon a chemical basis and that the chemical laboratory will be one of the great factors in the solution of the cancer problem.

In the consideration of the chemistry of cancer Dr. McDonald showed that the following facts must be accounted for:

(1) The rate of formation of lactic acid in cancer is 10-20 times that of normal, and the quality is inherited in succeeding generations of cancer cells.

(2) There is little or no accumulation of glycogen from lactic acid in the recovery phase.

(3) The presence of oxygen does not reduce the glycolysis in cancer tissue to the same degree as it does in normal tissue.

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*pH is a symbol commonly used in expressing ion hydrogen concentration. It signifies the logarithm of the reciprocal of the hydrogen ion concentration expressed as a power of ten. In simpler terms it means the intensity of acidity or alkalinity of e.g.: the blood serum.

(4) The non-utilization of hexose diphosphate and the Robison ester is significant as normal tissues utilize these substances readily.

(5) There is a discrepancy between the rate of formation of lactic acid from glucose and methyl glyoxal in normal and cancer tissue which indicates that the mechanism of glycolysis is different.

(6) The pH of the blood of untreated cancer is relatively higher by an average of 18.2 per cent., which is significant of the increased glycolysis found by Warburg with increasing pH.

(7) The glucose concentration of the blood of cancer patients is relatively higher than normal by an average of twenty per cent.

(8) The more alkaline the blood the more rapidly the cancer advances and the shorter the duration of life.

(9) The greater the amount of the sugar in the blood the greater the number of mitoses or cell division which is a measure of the rate of growth of the tumour.

"A consideration of the experimental evidence leads one to the conclusion that there is, in cancer, a definite deficiency in the oxidation phase of carbohydrate metabolism as compared with normal conditions.

These facts hold good for transplanted animal tumours as well as for human cancers. The quality of high aerobic glycolysis is not a property of cancer tissue alone but is shared by embryonic (growing and dividing) tissue, by leucocytes and by the retinal tissue. For these tissues, however, there is a pure carbohydrate oxidation where the R.Q.—1, the respiratory quotient, is the ratio of oxygen to carbon dioxide, and in the case of cancer tissue, this value is never approached. Uninjured tissues will have a glycolysis after the cancer manner, but, with recovery from the injury, the normal metabolism is restored.

When the oxidative mechanism of a cell is injured, it may (1) die, (2) grow disordered, producing lactic acid anaerobically but when respiration becomes normal and aerobic glycolysis disappears, the cells are normal again, or (3) the cells grow and divide while their property of aerobic glycolysis persists and is handed on to successive generations of cells, as in the case of cancerous tumours. In cancer cells, aerobic glycolysis is inherited and, in other pathological cases, this is the result of injury and disappears with the recovery from the injury. In cancer cells, not only must the normal respiration be re-established, but it must be passed on to successive generations. Non-malignant cells die under anaerobic conditions, while malignant cells do not do so if enough glucose is added.

In cancer, therefore, there is a defect in the respiration, and this defect is connected with the oxidation of carbohydrates. The anaerobic and aerobic glycolysis of cancer cells is shared by other tissues, as the retina, but the respiratory quotient is unity. In the metabolism of cancers, the rate of growth and glycolysis resemble those of embryonic tissue, but the respiratory quotient is low, which differentiates their mechanism from that of the normal embryonic cells.

The nature of the injury to the oxidative processes in the cell is the fundamental metabolic problem in cancer and the cure of cancer will come through the production of a more oxidizing potential than the limiting oxidation-reduction potential necessary to cell division. The next step in cancer research is to find out how the cancer cell can be transformed back, in its metabolism to the normal cell, to improve its oxidative capacity and to reduce its fermentative capacity. If the cells of a cancer can be reduced in their energy adaptations to the quality and amount of metabolism necessary for the maintenance of normal cells, then the cancer cells would be normal. In such a case, the cancer cells present in a tumour would not continue to divide and the cancer would not extend and be malignant any more. The growing cancer cells, are more susceptible to injury than the normal differentiated adult cells and so would gradually die and disappear. The cancer would be cured.

Like weeds in a field of grain, if the weeds can be prevented from spreading and growing, they become innocuous. But the job is to find out how to alter the metabolism so as to cause their destruction without destroying the healthy grain. The differences in reactions and metabolism of the cancer and the normal cells that have been found permits a more intelligent and scientific search for a cure. A chemical cure of cancer is only a matter of time and trouble. How much time and how much trouble remains to be seen."

Dr. McDonald also drew attention to the value of a bio-chemical laboratory in association with a cancer clinic to control and aid in the treatment of the patients by various chemical examinations, which are of value in regulating and directing the radiation treatment. Such a bio-chemical laboratory should be in direct association with the cancer clinic so that the workers would have their whole attention directed to this specific problem.

Dr. T. Lumsden, in the laboratories of the London Hospital, has shown that, by the injection of certain animals with cancer cells, he can develop anti-cancer substances against such cells in the serum of these animals. By fractional precipitation methods he can concentrate the anti-cancer substances into comparatively small bulk as compared with the original serum bulk. Injection of this anti-cancer serum will protect animals against inoculated cancer of the same type. Further, where animals have been inoculated and the resulting growth is only moderate in extent the serum will cause the disappearance of such growths. He has developed anti-bodies against human cancer but, as yet, has only done so on an experimental basis. There is a long step to be taken before such serums can be developed to a degree that they can be utilized for the actual treatment of human cancer. But now that it has been found possible to grow in vitro human cancer cells, there should be no lack of antigen; what will be needed is a large animal suitable for the development of a large bulk of serum. Such a possibility is by no means improbable or even remote and one hopes the day will arrive when this will be done.

Dr. Maisin of Louvain has been treating certain cancerous growths by the injection of an extract carrying the fat and lipoid contents of such organs as spleen, brain and thymus. These extracts are further fractionated and the lecithin-containing portion is utilized. (Details in May and June, 1931, issues of the Compte Rendus des Annales de la Societe de Biologie.)

Cramer and Magat of Berlin are employing certain chemicals in association with the use of radium and X-rays. It is claimed that colloidal solutions of certain aniline dyes and tuberculine improve the effect of X-rays. Tissue extracts similar to those in use at Louvain are employed.

Susman, Manchester, is working on the effect of the posterior lobe of the pituitary gland in cancer and claims that he has found that he can cause the disappearance of growths in mice by the use of an extract made from the gland.

Recently, Gye and Purdy of London have published a record of six years of research in an attempt to establish the virus transmission of cancer. In a criticism published in the Lancet (December, 1931) the following conclusion is reached:

"Evidence that the active component derived from the fowl is the factor responsible for the tissue specificity of the filtrates was not obtained, nor was any new evidence of non-cellular transmission of mammalian tumours adduced."

In 1931 Dr. F. G. Banting and Miss S. Cairns carried on experimental work with Rous chicken sarcoma. It was found that the serum of certain immune birds neutralized extracts of Rous sarcoma. Results indicated that this property is present only in the euglobulin fraction of the serum.

Summarizing the results of fundamental studies on the nature of the cancer process, Ewing (International Conference, 1928), says: "It is clear that the problem has been more exactly defined, new modes of approach have been opened up, and results of much importance have been obtained. I venture to think that the most promising field, and the deepest penetration into the secret, lies in the pursuit of growth-stimulating substances, produced by the cell, enabling it to obtain nutriment from unusual sources, maintaining growth in ever-increasing pace, until the process becomes irreversible and uncontrolllable malignant features are unfolded."

Research is the fundamental basis of all cancer work: the solution of the problem of cancer resides in the research laboratory.

CHAPTER FIVE

CANCER EDUCATION AND SOCIAL SERVICE ORGANIZATION

Francis Carter Wood (Radiology, March, 1931) says: "Only twenty per cent. of carcinomas admitted to hospital are operable." This means that eighty per cent. when first seen are incurable by means of surgery. Lombard gives similar facts and analyzes the reasons for delay in Massachusetts as has already been set out in the section of this report on treatment and in Appendix A.

Education of the public and of physicians then is vital to the success of a cancer campaign.

The cured (or recovered) patient is the best advertisement of a method of treatment and is as valuable for the doctor as for the public, since the average physician to-day looks on cancer as incurable. But time is an essential factor in this process, hence the necessity for other methods of approach.

Education of the Public

Such an educational programme always brings up the question of creating a fear of cancer. There may be someone who will develop this phobia, but as Dr. Bigelow of Massachusetts said, "If facts make people hysterical, they will be hysterical anyway." Such an educational programme should lay stress on the need of persons consulting their physicians regarding such points as unhealing sores, lumps, bleeding from any of the body orifices, protracted indigestion, loss of strength or unexplained ill-health. In this campaign there may be utilized various avenues of approach, as:

(*a*) Co-operation of the provincial health authorities and local boards of health in the spread of literature giving "Facts about Cancer" and emphasizing the need of its being detected early and given proper treatment.

(*b*) The provision of posters for display at health exhibitions and meetings should be made part of this co-operative effort.

(*c*) The use of newspaper advertisements, giving facts about cancer and urging people to consult their physicians regarding sores, lumps or unexplained symptoms. Advertisements should also make reference to treatment centres and explain how patients can reach these for diagnosis and treatment.

(*d*) The provision of lecturers to discuss facts about cancer and its treatment before service clubs, women's societies, etc.

Education of the Physician

(*a*) The average doctor in general practice will see fewer than half a dozen cases of cancer in the course of a year and these in scattered areas of the body, hence he can be excused for not being skilled in their diagnosis. The establishment of diagnostic clinics to which any suspicious case could be referred would materially aid the practitioner and would assure to the patient earlier diagnosis and an opportunity to obtain suitable and adequate treatment. Such diagnostic clinics would at first be part of the treatment centre but later could be established in all the larger city hospitals.

(*b*) The Canadian Medical Association arranges for post-graduate lectures before local medical societies. Each local society can have six such lectures annually. In this way speakers are provided to bring various phases of cancer diagnosis and therapy before local practitioners.

(*c*) The physician should brush up his knowledge of cancer, since if faced with a general educational programme for the public, he would in his community be looked upon as the local censor.

(*d*) Better training of medical students in cancer diagnosis and in types of therapy should be provided. The establishment of treatment centres in or in connection with the teaching hospitals of medical schools, would meet this requirement but it should be a proviso that such centres are made available for this educational work.

Social Service Organization—

One of the causes of delay in patients seeking treatment for conditions which prove to be cancerous, is the inability of the patient to withdraw himself or herself even temporarily from the home or labour circle. Lack of finances, fear of loss of employment, absence of any one to care for household or children are the major reasons for delay. These are the problems which must often be faced if the diseased person is to get early and adequate treatment.

In Ontario social service work so far has been organized in certain municipalities only. It is viewed primarily as a municipal problem. If this attitude is persisted in, it will mean that over a large area of the province in our towns and rural districts especially, no social service organization will exist to deal with these problems. Social service work should be part of the general scheme but must essentially be closely linked up with local municipal organizations for relief.

Such social service is essential too in the following up of many patients in order to secure their being checked as to effectiveness of treatment.

Of all the countries visited, Sweden has the best social service cancer organization and the closest co-operation between physicians and cancer treatment centres. It is not too much to hope that in time such an organization can be built up here.

CHAPTER SIX

CONCLUSIONS

CONCLUSIONS

The investigations of your Commission seem to warrant the following conclusions:

1. That while much is known about the predisposing or exciting causes of cancer, its actual cause is unknown. It is believed to be non-infectious, and while hereditary susceptibility may play a part in its incidence, there is no evidence that cancer in human beings is actually hereditary. There is no evidence that cancer is due to diet, either animal, vegetable or mixed, or to either excess or deficiency of any one food material.

2. That cancer arises from the normal cells of the body through some unknown cause from the stimulation to growth of these cells. It then grows by the multiplication of its own cells. When it becomes distributed to parts of the body other than its primary site, this is due to the transmission of cells from itself and conveyed by the circulating blood and lymph streams.

3. That while the cause of cancer is unknown, the chief predisposing conditions associated with it are age, and chronic irritation.

4. That cancer seems to be increasing even though the increase is accounted for in a large measure by the prolongation of life due to the spread of public health activities, by the better statistical records of the present day and by the advance in diagnostic methods.

5. That while the incidence of cancer seems to be lower in the primitive races, this circumstance is probably due to the fewer number of persons of advanced age, to the lack of opportunity for skilled diagnosis and to the incomplete records found among such people.

6. That everywhere the deplorable situation is found that most cases of cancer are seen too late to afford the best opportunity for successful treatment.

That early diagnosis of cancer is of vital importance is indicated by the following statements, viz.:

> Dr. Joseph Colt Bloodgood of Johns Hopkins Hospital has said that fully seventy-five per cent. of cases of cancer of the breast could be cured if diagnosed early and treated promptly and properly.
>
> Lord Moynihan points out that where operation for cancer of the breast was performed in the early stages of the disease, 90.1 per cent. of the women were alive and well at the end of ten years, whereas if the disease was well advanced, 94.4 per cent. were dead within this period.
>
> Dr. Cl. Regaud of the Fondation Curie, Paris, says: "Early and accurate diagnosis and prompt treatment determine the success in the whole war against cancer. The ultimate outcome is largely in the hands of the first physician who sees the case."

7. That there are many early signs of cancer, and of pre-cancerous conditions. If these were observed, and followed by prompt measures of prevention and treatment, the mortality from this disease would be greatly reduced.

Among these signs are: the unhealing sore on lip, tongue and face, in mouth or throat; bleeding from the lower bowel or other orifice of the body; the lump in the breast; the hoarseness from an affected larynx; the protracted indigestion in middle age, that fails to respond to the usual remedies.

8. That these facts indicate the urgent need for a wide-spread campaign of public health education, among undergraduates in medicine and dentistry, among nurses, teachers, and the general public. Such education should be given through the press, by lectures, pamphlets, the radio, and by every available means. Short post-graduate courses should be established for physicians in connexion with medical teaching centres. The public attitude of the fear of cancer should be replaced by the *fear of delay*.

9. That there is reasonable certainty that cancer is at first a local disease and that when local and accessible, it is particularly amenable to treatment. Knowledge of these facts should dispel much of the fear of cancer. Even in advanced cases cures have been obtained. The greatest obstacle to improved treatment of the disease is mental lethargy and lack of knowledge of its early signs on the part of its victims.

10. That through cancer, as through disease generally, there is an enormous economic loss to the country, a considerable proportion of which might be saved by timely measures of prevention.

11. That, since sickness is the *greatest cause of poverty*, all parties, governments, municipalities, and the public should co-operate in the prevention of cancer and other diseases. The history of the public health movement illustrates convincingly that many diseases may be prevented and that others may be exterminated. The economic loss resulting from disease may be reduced and, a matter of much higher importance, the comfort and life of mankind may be greatly extended.

12. That in the treatment of cancer, surgical measures still hold the first place, especially in breast cancer, cancers of the alimentary canal, and of other deep portions of the body.

13. That radium and X-rays, either singly or combined or in conjunction with surgery, are highly useful curative agents in cancer. They are also important palliative agents, relieving pain and prolonging life.

14. That in certain areas of the body such as the skin, the lips, tongue, mouth, throat, and the cervix of the uterus, radium and X-rays are most effective. Successful results in the use of these remedies depend upon their use in skilled hands and upon early diagnosis. Inadequate or unskilled first treatment by radio-therapy is liable to hasten the progress of the disease.

15. That the high value of irradiation by the use of radium and X-rays is apparent from the records seen in a large number of clinics. The Radiumhemmet, Stockholm, which has been longest in operation, shows records of permanent healings in 69 per cent. of all cases of skin cancer, in 68 per cent. lip cancer, in 55 per cent. of operable cases of cancer of the mouth without metastases, in operable and borderline cases of the cervix of the uterus, 40.4 per cent., in cancer of the body of the uterus, 43.5 per cent.

16. That it is apparent that radio-therapeutic treatment can successfully be carried out only under the direction of clinicians fully qualified in the use of radium and X-rays. In Sweden, a most extensive post-graduate course in this work is required of the surgeon before he is given charge of a treatment clinic.

17. That both radium and radon (radium emanation) are effective in treatment in certain areas of the body. Their respective uses are determined chiefly

by the accessibility of the growth, the convenience of treatment or the experience of the operator. Both methods of treatment should be provided. "No modern community," says Mr. Stanford Cade, of the Westminster Hospital, London, "can afford to be without radium."

18. That while the use of one to four grammes of radium for massive or intensive irradiation and with suitable and adequate screening, requires caution, experience at the State Institute for Malignant Disease, Buffalo, the Memorial Hospital, N.Y., the Westminster Hospital, London, the Fondation Curie in Paris, and the Radiumhemmet, Stockholm, seem to warrant further trial of the efficiency of this method of treatment.

19. That a number of investigations are in progress with a view to obtaining high-voltage equipment capable of providing X-radiation approximating in wave-lengths to the gamma rays of radium. The success that has already been obtained in these investigations would seem to warrant the view that X-radiation obtainable from such equipment might in the future, in part at least, be a substitute for the radiation obtainable from radium. The application of these high-voltage X-radiations in the treatment of cancer is still in the experimental stage.

20. That various authorities agree in estimating the quantity of radium required by any country as two grammes per million of population or two grammes for each one thousand deaths from cancer.

21. That since cancer treatment centres, when established, will only gradually work into a position where they will be treating the majority of cancer cases in the Province, there is no need to supply this amount of radium at once.

22. That there is a wide diversity of opinion in respect to the use of the term "Cancer" in association with centres for treatment. Radium and X-rays are used for many non-malignant affections as well as for cancer. Hence, in some quarters there is the fear that the use of the word "Cancer" may prevent patients from coming to a centre so designated. Such names as "Radiotherapeutic Centre, Institute or Clinic," "Radiological Centre, Institute or Clinic," or "Tumour Clinic" have been suggested. This should be a subject for careful consideration in the organization of centres.

23. That active-treatment centres should possess the best possible facilities for treatment. They should be associated with a large general hospital, so as to provide a wide variety of cases for treatment, and a trained and specialized staff. In this way would be afforded opportunity for the instruction of medical students and of those desiring post-graduate teaching in the field of radiotherapy.

24. That active-treatment centres should be designed for the curative and palliative treatment of cases. Provision, if necessary, should be made for the care of hopeless cases apart from these centres.

25. That at the outset, because of the difficulty of securing qualified personnel, the centres established in Ontario should be placed in the cities which have medical teaching facilities. There should be kept in view the future development of additional centres and of diagnostic clinics in large hospitals. Experience elsewhere indicates that the best results have been secured by limiting the number of treatment centres.

26. That adequate laboratory facilities should be provided or utilized for assistance in diagnosis and for study of the cause and cure of cancer. These facilities should include laboratories for physics, chemistry, pathology and bio-chemistry.

27. That cancer research, both of the clinical and fundamental type is urgently needed. Clinical research is concerned with the gross manifestations of the disease, its distribution by site, age, sex, etc., and its therapy. Fundamental research is concerned with the inherent biological characteristics of the disease such as its cause, pathology, and vital reactions to various physical and chemical stimuli.

28. That since the welfare of the cancer patient should be the first consideration, there must be in all active-treatment centres, close co-operation of all services, medical, surgical, laboratory and radio-therapeutic, which deal with this malady.

29. That such co-operation should be ensured by the appointment of a Commission or Commissioner, whose duty should comprise the custody and distribution of radium, the organization and supervision of centres, and particularly the securing of close co-operation of the therapeutic and other services in such centres.

30. That in the successful treatment and control of cancer, it is essential that every patient be closely followed up so that he or she may be induced to return for observation at regular intervals. For this purpose every centre should possess an active Social Service. The duties of a Social Service should include not only the keeping track of patients and bringing them to the treatment centre, but also the supervision of home conditions, and the securing for such cases of moral, and, if required, financial aid.

31. That in order to supplement the efforts of the Government in the control of cancer, and other preventable diseases, appeal should be made to private beneficence for financial aid, either for definite needs, such as a Cancer Institute, or for a *Foundation* for Public Health, the income from which would ensure a flexible fund for the advancement of public health.

32. That many investigators are engaged in experimentation seeking the cure of cancer along the lines of serums, tissue extracts and bio-chemical processes. All these methods are in the experimental stage, but there is ample basis for hope that from these or from similar investigations a cure will ultimately be found. The Commission advises that the Government, through its research department, should investigate any of these methods of treatment which give reasonable promise.

CHAPTER SEVEN

RECOMMENDATIONS

RECOMMENDATIONS

Your Commission is required by the terms of the Order-in-Council of its appointment to enquire into and report upon the following points. To each question is appended the appropriate answer.

1.—*The use of radium and X-rays for the treatment of the sick*

Your Commission is agreed that the use of radium and X-rays of suitable wave-lengths and intensity is of high value in the treatment of cancer in certain parts of the body, and also in the treatment of a large variety of non-malignant conditions.

2.—*The advisability of the Province securing a supply of radium for the above purpose*

Your Commission having in view the value of radium in the treatment of the sick, etc., as indicated by the statistics of cure, observed in all clinics, is unanimously of the opinion that, in the public interest, it is advisable that the Government purchase from time to time such quantity of radium as may satisfactorily meet the demand for treatment of cancer by this means.

3.—*The advisability of the Province establishing a radium emanation plant with the necessary laboratories, etc.*

Your Commission, having studied the use of radio-active emanation in the treatment of cancer, is of the opinion that it is a useful method of treatment for certain cases, and therefore advises that a plant for the production, standardization and supply of radon be established.

4.—*The advisability of establishing a Cancer Research Department*

Your Commission advises the establishment of Research and other necessary laboratories for the study of cancer.

5.—*The advisability of establishing a Cancer Institute*

For the purpose of securing skilled personnel and for the stimulation and guidance of research and in view of the world tendency towards setting up institutions for the attack on particular diseases, your Commission advises the establishment of such an organization either as a separate institute, or as a separate unit in a general hospital, but in any case in proximity to a general hospital and in association with the medical teaching body of a university. The functions of such an institute would comprise not only diagnosis and treatment, but also research, teaching and public health measures against cancer.

6.—*The advisability of establishing Cancer Clinics*

Your Commission recommends that it is advisable to organize a limited number of active-treatment centres and a larger number of diagnostic centres, but at the outset, owing to the difficulty of securing experienced and highly skilled personnel, your Commission advises that in Ontario no more than three such active-treatment centres should be organized, and that these should be associated with a teaching hospital of a university.

7.—*The advisability of adopting plans and methods of educating the public with respect to the prevention of cancer.*

Your Commission, aware of the lack of knowledge of the public in respect to the early signs of cancer, advises that an active campaign of education should be instituted, and that the co-operation of doctors, nurses, dentists, teachers, the press, and the public, should be sought for this purpose.

8.—*And generally any matter or question arising out of the subjects referred to the Commission, and which in the judgment of the Commission calls for investigation and consideration.*

In its study, your Commission was constantly impressed by the view that cancer should be treated by *experts* in the various lines of diagnosis and therapy; by the need, in the interest of the patient, of close co-operation of all services of treatment; and by the desirability of concentrating treatment in a few first-class centres under careful supervision.

Your Commission advises that no centre be established until competent personnel for such centre is available, and in this connexion desires to emphasize the fact that in unskilled hands, such potent weapons as X-rays and radium may do more harm than good.

In view of the fact that certain amounts of radium in Ontario are privately owned, your Commission recommends that in case the owners of this radium desire to dispose of it, the Government should consider its purchase.

Your Commission advises that, in connexion with every centre, the most careful and exact records of cases be kept, and that a Social Service be maintained for the purpose of "following up" all patients.

Your Commission advises that a Commission or Commissioner should be appointed by the Government for the custody, control and distribution of its own radium, for the inauguration and supervision of active-treatment centres and diagnostic clinics; and for the purpose of securing close co-operation of all services in the treatment of cancer; and that such Commission or Commissioner be attached to the Ministry of Health.

All of which is respectfully submitted.

(Signed) H. J. CODY,
Chairman.
J. C. McLENNAN,
W. T. CONNELL,
ARTHUR R. FORD.

Dated at the Parliament Buildings, Toronto,
the 29th day of February, 1932.

CHAPTER EIGHT

Contents *Appendices*

Appendix A. Statistics of Cancer Mortality.
B. Cancer in Occupational Disease.
C. Plan of Organization for the Control of Cancer.
D. X-rays and Radium.

APPENDIX A

STATISTICS OF CANCER MORTALITY

STATISTICS OF CANCER MORTALITY

Ontario
Canada
England and Wales
Australia
United States
Denmark
Holland
Switzerland
Norway
Sweden
Russia
Finland
Germany
France
Bulgaria
Czechoslovakia
Luxembourg
Hungary
Italy
Scotland
Esthonia
Spain
Portugal
India

While statistics are better compiled than at any former period they are, in respect to disease, very unreliable. They are particularly unreliable in respect to a disease like cancer, since many forms of the disease, especially those of the internal organs, are difficult to diagnose.

All statistics show that reported cancer deaths are increasing; the average age of people has also been increasing, owing to the lowered death-rate which is largely the result of public health activity. Obviously, every person saved from death in youth becomes a potential victim of cancer in later years, and consequently every improvement in public health indirectly leads to an increased cancer mortality. A high cancer rate is proportionate to the degree of control of preventable diseases. Countries with a good public health service have at the present time the highest cancer rates. Every advance in diagnosis, medical and hospital care, adds to the number of cancer records because this advance increases the number of persons of the cancer age.

Certificates of death, while vastly better than those of a generation ago, are frequently valueless. Many people have the mistaken idea that a death from tuberculosis, cancer, or mental derangement, is a disgrace, and extraordinary means are sometimes taken to prevent such a report. Doctors are frequently importuned to record something other than the truth. In certain countries, it is said, the family doctor rarely places a diagnosis of cancer on the death certificate. In some cases of cancer, the only diagnosis is that made at autopsy.

Whether or not there is a definite increase in cancer as a whole, it seems certain there is a real increase of cancer in persons of the cancer age.

The following are the recorded cancer statistics of various countries:

CANCER MORTALITY IN ONTARIO

The Province of Ontario has an area of 407,000 square miles and a population of approximately 3,500,000, the larger proportion of which is contained in the older part of the Province north and west of the Great Lakes and St. Lawrence River. With the exception of Prince Edward Island and British Columbia, the recorded cancer rates of Ontario are the highest in Canada. The cases and rates for the different types of cancer for the years 1920–1930 inclusive are included in the following table:

	1920		1921		1922		1923		1924		1925	
Buccal cavity........	117	4.0	98	3.5	94	3.1	134	4.4	162	5.2	142	4.6
Stomach............	782	27.0	860	29.2	869	29.2	938	31.0	1,023	33.4	1,050	33.8
Peritoneum..........	396	13.6	391	13.0	438	14.7	428	14.1	462	15.0	481	15.5
Female genital organs	234	8.0	236	8.0	224	8.2	283	9.4	323	10.5	333	10.7
Breast.............	198	6.8	235	8.0	231	7.7	279	9.2	320	10.4	331	10.7
Skin................	49	1.7	66	2.2	77	2.6	811	2.7	85	2.7	81	2.6
Other or unspecified.	688	23.7	699	24.1	656	22.0	531	19.2	571	18.6	533	17.2
Total..........	2,464	85.2	2,585	88.1	2,609	87.5	2,724	90.0	2,946	96.2	2,951	95.1

	1926		1927		1928		1929		1930	
Buccal cavity........	134	4.3	141	4.4	132	4.1	155	4.7	124	3.7
Stomach............	1,111	35.4	1,115	34.9	1,205	37.3	1,139	34.8	1,200	36.2
Peritoneum..........	513	16.3	526	16.5	605	18.7	627	19.2	629	18.9
Female genital organs.	353	11.2	348	10.9	337	10.4	355	10.8	400	12.3
Breast..............	307	9.8	310	9.8	344	10.7	333	10.2	415	12.5
Skin................	88	2.8	75	2.3	72	2.2	75	2.3	87	2.6
Other or unspecified..	610	19.4	662	20.8	746	23.1	718	22.0	780	23.5
Total...........	3,116	99.0	3,177	99.6	3,441	106.5	3,402	104.0	3,635	109.5

In 1929 cancer caused 3,402 deaths or thirty-nine less than in the preceding year, the rate per 100,000 of population being 104 or 1.1 points lower than that of 1928. The number of deaths in 1930 was 3,635, the rate being 109.5.

A comparison of ncreases in the rate for the years 1920–30 inclusive is given as follows:

1920.................	12.9
1921.................	4.9
1922.................	0.9
1923.................	4.4
1924.................	8.1
1925.................	0.0
1926.................	5.5
1927.................	1.7
1928.................	8.3
1929.................	1.1 decrease
1930.................	6.8 increase

Increases 1914–29

In 1914 the cancer rate was 69.6 per 100,000 of population; in 1918, 75.5; and in 1929, 104. Cancer of the buccal cavity underwent slight changes, but there was a material increase in cancer of the stomach from 22.8 in 1914 to 34.8 in 1929 and to 36.2 in 1930. Cancer of peritoneum and intestines increased from 9.8 in 1914 to 19.2 in 1929, but dropped to 18.9 in 1930. Cancer of the female genital organs increased from 5.2 in 1914 to 10.8 in 1929 and to 12.3 in 1930. Cancer of the breast increased from 4.5 to 9.2; of the skin from 0.99 to 2.3. Other causes, including unspecified ones, have remained practically stationary; the rate in 1914 was 20.5 and in 1930, 23.5. The total deaths for 1929 were 3,402 and in 1930, 3,635. During the last decade the rate increase of cancer for Ontario has been nearly 20.0 per 100,000 of population. Comparing the mean rate of the last decade with that of the preceding decade, there has been a relative increase in the cancer death-rate of 31 per cent.

In dealing with increases in cancer rates, it is of much greater importance to consider the increase for the different organs and parts of the body affected than to consider the disease as a single entity. The figures below are for the period 1920–30 inclusive.

(1) Cancer of buccal cavity:

Has increased from 82 deaths to 124 or from 2.8 to 3.7 per 100,000 of population.

(2) Cancer of the stomach:

Has increased from 623 deaths to 1,200 or from 21.9 to 36.2 per 100,000 of population.

(3) Cancer of the peritoneum:

Has increased from 305 deaths to 627 or from 10.7 to 18.9 per 100,000 of population.

(4) Cancer of the female genital organs:

Has increased from 181 deaths to 400 or from 6.3 to 12.3 per 100,000 of population.

(5) Cancer of the breast:

Has increased from 128 to 415 deaths or from 4.5 to 12.5 per 100,000 of population.

(6) Cancer of the skin:

Shows an increase in deaths from 58 to 87 or a rate increase from 2.0 to 2.6 per 100,000, while the other or unspecified deaths have dropped in the period from 805 to 780, the comparative rates being 28.3 and 23.5 per 100,000 of population.

Cancer in Males and Females

The following table for the year 1928 illustrates the number of cases and their distribution in males and females:

	Males	Females
Cancer of the buccal cavity	108	24
" " stomach and liver	644	561
" " peritoneum, intestines and rectum	284	321
" " female genital organs	...	337
" " breast	2	342
" " skin	43	29
" " other or unspecified organs	490	256
	1,571	1,870
		1,571
		3,441

This table shows how much more frequently cancer attacks the mouth of men than of women, the deaths being four and one-half times as many in men as compared with women. The difference is not so great in regard to cancer of stomach and liver, there being 644 deaths in men as compared with 561 in women. In the case of the peritoneum, intestines and rectum, there are 284 deaths in men as compared with 321 in women. Cancer of the genital organs takes a large toll of women, reaching 400 deaths in 1930. There are relatively fewer cases of cancer of this area in 1930. The skin cancers show a higher rate for men than for women, while the unspecified sites show 497 deaths in men as compared with 283 in women. This comparison is from the 3,635 deaths from cancer in Ontario in 1930, but the proportion as between organs will be found to vary very little from year to year.

ONTARIO

The following tables show the deaths from cancer in Ontario, compared with total deaths by age groups in males and females, 1925–1930 inclusive.

DEATHS FROM CANCER

COMPARED WITH TOTAL DEATHS—BY AGE GROUPS

1925

Age Groups	TOTAL			MALE			FEMALE		
	All	Cancer	Per cent.	All	Cancer	Per cent.	All	Cancer	Per cent.
Under 5	6,970	1	.154	3,823	1	.03	3,142	3	.09
5–9	628	5	.08	371	2	.54	257	3	1.67
10–14	491	10	2.03	268	4	1.49	223	6	2.69
15–19	633	5	.79	348	3	.86	285	2	.72
20–24	801	10	1.25	377	4	1.06	424	6	1.41
25–29	839	23	2.74	395	5	1.27	444	18	4.05
30–34	859	45	5.24	399	15	3.75	460	30	6.52
35–39	966	69	7.30	481	18	3.73	485	51	10.52
40–44	1,103	116	10.54	547	30	5.48	556	86	15.45
45–49	1,226	200	16.03	638	59	9.26	588	141	23.66
50–54	1,409	256	18.17	718	95	13.24	691	161	13.29
55–59	1,752	313	17.80	938	127	13.50	814	186	12.86
60–64	2,305	408	17.70	1,203	200	16.61	1,102	208	18.85
65–69	2,889	476	16.40	1,553	234	15.07	1,333	242	18.62
70–74	3,168	400	12.65	1,642	217	13.22	1,526	183	11.99
75–79	3,038	311	10.24	1,548	165	11.65	1,490	146	9.80
80–84	2,490	189	7.59	1,200	97	8.08	1,290	92	7.13
85–89	1,570	83	5.29	742	33	4.45	828	50	6.02
90–	788	28	3.56	362	15	4.14	426	13	3.05
N.S.	35	....	....	25	....	....	10	.....	......

DEATHS FROM CANCER—*Continued*

COMPARED WITH TOTAL DEATHS—BY AGE GROUPS

1926

Age Groups	Total			Male			Female		
	All	Cancer	Per cent.	All	Cancer	Per cent.	All	Cancer	Per cent.
Under-5	6,783	15	.22	3,811	7	.02	2,977	8	.03
5-9	634	4	.64	340	4	1.18	294	......	......
10-14	496	6	1.21	277	4	1.44	219	2	.91
15-19	689	9	1.30	373	6	1.60	316	3	.63
20-24	758	12	1.58	359	4	1.11	399	8	2.00
25-29	782	16	2.05	377	8	2.12	405	8	1.97
30-35	863	38	4.39	373	9	2.41	489	29	5.93
35-39	1,109	62	5.58	568	27	4.74	541	55	10.16
40-44	1,168	130	11.12	628	41	6.53	540	89	16.47
45-49	1,385	229	16.52	721	88	12.20	664	141	21.24
50-54	1,537	259	16.85	807	94	11.19	730	165	22.59
55-59	1,881	335	17.80	964	133	14.55	917	202	21.80
60-64	2,558	396	15.47	1,344	180	13.37	1,214	216	10.37
65-69	3,076	475	15.45	1,638	251	15.31	1,438	224	15.58
70-74	3,476	420	12.08	1,852	208	11.22	1,624	212	13.05
75-79	3,421	368	10.76	1,774	178	9.98	1,647	190	11.60
80-84	2,747	199	7.25	1,343	106	7.87	1,399	93	6.57
85-89	1,684	95	5.04	778	41	5.27	906	54	5.96
90-	797	26	3.26	348	11	3.16	448	15	3.34
N.S.	61	2	......	41	......	......	20	2	......

1927

Age Groups	Total			Male			Female		
	All	Cancer	Per cent.	All	Cancer	Per cent.	All	Cancer	Per cent.
Under-5	6,127	17	.08	3,421	10	.29	2,706	7	.03
5-9	656	7	.92	389	4	1.03	267	3	1.12
10-14	531	2	.38	298	1	.33	233	1	.43
15-19	616	7	1.14	306	4	1.31	310	3	.96
20-24	765	20	2.62	382	3	.78	383	7	1.82
25-29	853	21	2.46	429	10	2.33	424	11	2.59
30-34	854	59	6.91	398	22	5.54	456	37	8.12
35-39	1,101	74	6.73	548	22	4.00	553	52	9.40
40-44	1,154	137	11.88	582	51	8.77	572	86	15.03
45-49	1,416	209	14.75	742	62	8.36	674	147	21.80
50-54	1,525	267	17.50	828	100	12.06	697	167	23.95
55-59	1,965	372	18.93	1,109	181	16.30	856	191	22.30
60-64	2,451	449	18.31	1,295	204	15.60	1,156	245	21.18
65-69	3,186	479	15.05	1,695	234	13.80	1,491	245	16.44
70-74	3,289	400	12.16	1,821	212	11.64	1,468	188	12.80
75-79	3,280	345	10.52	1,698	186	10.95	1,582	159	10.05
80-84	2,561	216	9.56	1,268	113	8.90	1,293	103	7.96
85-89	1,580	77	4.87	690	28	4.06	890	49	5.51
90-	801	27	3.37	358	10	2.79	443	17	3.83
N.S.	64	2	3.12	48	1	.02	16	1	.62

DEATHS FROM CANCER—*Continued*

Compared with Total Deaths—by Age Groups

1928

Age Groups	Total			Male			Female		
	All	Cancer	Per cent.	All	Cancer	Per cent.	All	Cancer	Per cent.
Under-5	6,187	11	.18	3,435	3	.09	2,752	8	.29
5-9	640	10	1.53	368	3	.81	272	7	2.57
10-14	488	6	1.23	252	1	.39	236	5	2.11
15-19	724	8	1.10	403	4	.99	321	4	1.24
20-24	921	18	1.95	480	10	2.08	441	8	1.81
25-29	936	14	1.49	482	5	1.03	454	9	1.98
30-34	973	42	4.39	447	16	3.58	526	26	4.94
35-39	1,075	73	6.78	529	26	4.91	546	47	8.62
40-44	1,305	148	11.32	683	53	7.77	622	95	15.27
45-49	1,476	238	16.12	789	83	10.51	687	155	21.52
50-54	1,732	290	16.22	935	107	11.56	797	183	22.95
55-59	2,077	401	19.35	1,120	180	16.07	957	221	23.05
60-64	2,603	485	18.62	1,402	236	16.82	1,201	249	20.07
65-69	3,315	525	15.84	1,815	281	15.48	1,500	244	16.27
70-74	3,592	476	13.25	1,873	242	13.92	1,719	234	13.62
75-59	3,613	397	11.00	1,848	185	10.00	1,765	212	12.00
80-84	2,795	194	6.94	1,353	87	6.43	1,442	107	7.42
85-89	1,717	78	4.54	802	39	4.86	915	39	4.26
90-	890	25	2.81	393	9	2.29	503	16	3.18
N.S.	63	2	.03	48	1	......	15	1	......

1929

Age Groups	Total			Male			Female		
	All	Cancer	Per cent.	All	Cancer	Per cent.	All	Cancer	Per cent.
Under-5	6,726	18	.02	3,755	12	.03	2,971	6	.02
5-9	689	4	.58	377	1	.26	312	3	.96
10-14	508	7	.13	279	5	1.79	229	2	.87
15-19	772	12	1.55	453	6	1.32	319	6	1.88
20-24	904	10	1.10	479	8	1.67	425	2	.47
25-29	889	17	1.91	455	7	1.83	434	10	2.30
30-34	934	51	5.46	465	15	3.22	469	36	7.65
35-39	1,116	87	7.80	585	20	3.41	531	67	12.61
40-44	1,312	150	11.41	714	45	6.30	798	105	13.15
45-49	1,489	201	13.50	810	64	6.67	679	135	19.87
50-54	1,796	325	18.10	985	113	11.47	811	212	26.12
55-59	1,998	338	16.90	1,117	149	12.72	881	189	21.42
60-64	2,588	459	17.72	1,439	239	16.58	1,149	220	19.15
65-69	3,412	535	15.67	1,834	274	14.94	1,578	261	16.55
70-74	3,842	465	12.10	2,010	250	12.44	1,832	215	11.72
75-79	3,716	397	10.78	1,912	196	9.99	1,804	201	11.14
80-84	2,884	208	7.23	1,424	115	8.08	1,460	93	6.37
85-89	1,737	102	5.87	827	57	6.89	910	45	4.94
90-	765	15	2.96	321	5	1.56	444	10	2.25
N.S.	46	1	.22	40	1	.02	6	......	......

DEATHS FROM CANCER—*Continued*

COMPARED WITH TOTAL DEATHS—BY AGE GROUPS

1930

Age Groups	Total			Male			Female		
	All	Cancer	Percent.	All	Cancer	Percent.	All	Cancer	Percent.
Under 5	6,555	10	.14	3,685	5	.14	2,870	5	.17
5–9	689	1	.14	412	......	......	277	1	.36
10–14	482	4	.83	267	1	.37	215	3	1.39
15–19	759	5	.66	422	2	.47	337	3	.89
20–24	909	16	1.71	500	11	2.20	409	5	1.11
25–29	861	22	2.55	441	6	1.36	420	16	3.81
30–34	886	54	6.10	452	27	5.89	434	27	6.22
35–39	1,112	93	8.35	586	32	5.46	526	61	11.60
40–44	1,257	182	14.47	653	54	8.28	604	128	21.05
45–49	1,498	218	14.55	815	68	8.34	683	150	21.96
50–54	1,784	315	17.65	979	123	12.56	805	192	23.85
55–59	2,062	392	19.00	1,082	144	13.40	970	248	25.59
60–64	2,559	471	18.40	1,410	212	15.02	1,149	259	22.51
65–69	3,293	590	17.92	1,761	294	16.69	1,532	296	19.31
70–74	3,878	512	13.95	2,077	281	13.52	1,801	231	12.82
75–79	3,556	403	11.41	1,852	218	12.77	1,704	185	108.6
80–84	2,704	223	8.25	1,298	111	8.55	1,406	112	7.96
85–89	1,625	97	5.97	752	43	5.72	873	49	5.61
90 plus	832	31	3.75	362	12	3.31	470	19	4.04
N.S.	22	1	.45	21	......	......	1	1	......

CANCER MORTALITY IN CANADA

The recorded mortality rates for the Provinces of Canada are:

	(Dominion Statistics) Deaths		Deaths per 100 M of population.
	1929	1930	1930
Prince Edward Island........	87.2	106.6	92
Ontario.....................	104.1	109.5	3,635
Nova Scotia..................	97.8	100.1	555
British Columbia.............	117.1	118.3	707
New Brunswick..............	94.0	86.8	368
Manitoba...................	90.0	89.5	602
Quebec......................	79.2	85.7	2,346
Alberta......................	70.0	73.0	482
Saskatchewan...............	58.8	54.4	480
ALL CANADA............	88.7	93.3	9,267

The relatively low rates of Saskatchewan and Alberta are probably due to the fact that the mass of the population of these new provinces has not yet reached the cancer age. The 1921 census shows that of persons between the ages of fifty and seventy (the cancer ages) Saskatchewan had only 9.07 per cent., while Ontario had 16.93 per cent. The cancer death-rate bears a fairly definite relation to the percentage of the population living at the age of fifty. The older provinces, with more people of over fifty years, thus show a higher mortality.

For example:

	Cancer Death-rate 1921	Percentage of Population over 50 years of age, Census of 1921
Nova Scotia	93.9	17.99
Ontario	88.1	17.78
British Columbia	74.9	15.09
Manitoba	74.7	11.61
New Brunswick	71.9	16.50
Quebec	55.8	13.47
Alberta	47.9	10.43
Saskatchewan	38.4	9.28

As time progresses, with consequent increase of older persons, one may assume that the cancer rates of the newer areas will increase.

The death rates from cancer in the older countries of the world are among the highest. The increase in rates for England and Wales has been constant since 1847; those of most European countries are steadily climbing.

The death-rate of the Province of Quebec is 85.7 per 100,000 of population as compared with 109.5 (1930) in Ontario. Hoffman, who has studied the cancer situation in the Province of Quebec, says: "There are the strongest reasons for believing that the French-Canadian population is less liable to cancer than the population of British origin." But cancer in Quebec is increasing; the rate of 77.2 per 100,000 of population for 1929 was advanced to 85.7 in 1930.

CANCER DEATHS IN CANADA

In 1929 cancer killed 8,793 persons in Canada, as compared with 7,770 from tuberculosis, the comparative figures for the Provinces being: (Dominion Bureau of Statistics, 1929.)

	Cancer	Tuberculosis
Alberta	452	391
British Columbia	692	615
Manitoba	597	424
New Brunswick	394	379
Nova Scotia	538	519
Ontario	3,404	1,702
Quebec	2,131	3,286
Prince Edward Island	75	75
Saskatchewan	510	376
	8,793	7,770

In 1930 the total cancer mortality of Canada was 9,263, with an advance in the rate over that of 1929 from 88.2 to 93.3.

It will be observed from the foregoing table (1929) that the number of deaths from cancer in each of the Provinces exceeds that of tuberculosis, with the exception of the Province of Quebec, where tuberculosis kills 3,286 persons while cancer accounts for but 2,131.

As a rule the rates of mortality for cancer are higher in the cities and larger towns than in the rural areas, probably because there is a larger proportion of people of the cancer age in cities and towns. However, the rates for Montreal, Ottawa and Quebec are much below the general rate for cities, being 79.8, 86.4 and 64.3 respectively. It is probable that the considerable French population of these cities may account for the lower rates.

Primitive races in Canada

The recorded cancer mortality of the Indians of Canada, while considerable, is below the general rate. Dr. H. E. Young, the Provincial Officer of Health for B.C., in a return of Indian deaths for 1923, found that among 26,000 Indians of that Province there were 889 deaths from all causes, of which eleven or 1.2 per cent. were due to cancer. This would give a rate of twenty per 100,000 population.

The investigations made by the Chief Officer of Health for Ontario give an Indian cancer rate of 70.6. The following figures for the year 1920 were furnished by the various Indian agents, who invariably are the registrars of vital statistics for the Indian population:

	Number of Indians	Deaths from Cancer	Rate per 100,000
Ontario	13,130	9	68.5.
Prince Edward Island	25	0	0
British Columbia	8,362	7	83.7
Quebec	6,268	4	63.8
Nova Scotia	736	1	135.9
Saskatchewan	4,180	2	47.8
Alberta	2,780	0	0
Yukon	0	0	0
New Brunswick	737	2	271.4
Manitoba	3,444	3	87.1
	39,662	28	70.6

In dealing with statistics of native races one must always allow for a considerable element of inaccuracy. Indians and other primitive races, particularly the women, are very reluctant to undergo a close examination by a white doctor. Doubtless much disease is hidden, and never discovered. The Indian is stoical; he bears pain rather than make his condition known. If civilized women conceal or neglect, as they often do, a lump in the breast, is it not likely that the primitive woman may err to a greater extent in this direction? On the other hand, the primitive races do not live to so great ages as do civilized people. There is less "Cancer age" among them.

Efforts for Control of Cancer in Canada

Outside the diffusion of knowledge respecting cancer by physicians, medical societies, and health departments, and the provision of surgical and radio-therapeutic treatment by the hospitals of larger cities, little effort has been made by Canada to control the disease. In 1930 the Legislature of Saskatchewan passed a Bill providing for a permanent Cancer Commission, which Commission has recommended that one and one-half grammes of radium be purchased by the Saskatchewan Government at a cost of $105,000 to $115,000, and that a radiological service be established which "for the present is *not* intended to be a free service."

There is a radiological service in connection with Montreal hospitals and a small quantity of radium has been provided through the combined efforts of the Quebec Government and private individuals.

Ontario possesses about two grammes of radium, the Toronto General Hospital having nearly a gramme. Individual physicians and other hospitals possess small amounts.

Cancer Mortality in England and Wales

(Annual Report of the Chief Medical Officer, 1929 and 1930)

The records of cancer in England and Wales date back to 1847, and as will be seen by the accompanying table, show a gradual increase from year to year, the rate for 1847–1850 being 27.4 per 100,000 of population, as compared with 145.3 for 1930.

RECORDED DEATHS PER 100,000 FROM CANCER IN ENGLAND AND WALES

1847–1930

1847-50	27.4	1911-15	105.5
1851-55	30.6	1916-20	118.2
1856-60	32.7	1921-25	126.9
1861-65	36.7	1921	121.5
1866-70	40.3	1922	122.9
1871-75	44.5	1923	126.7
1876-80	49.4	1924	129.7
1881-85	54.8	1925	133.6
1886-90	63.2	1926	136.2
1891-95	71.2	1927	137.6
1896-00	80.0	1928	142.5
1901-05	86.7	1929	143.7
1906-10	93.9	1930	145.3

While cancer has reached second place as a killing disease in Ontario, it occupies third place in this list and accounts for 10.7 per cent. of the total number of deaths. The number of deaths attributed to cancer in 1930 is 57,882, or as already pointed out, a death-rate per 100,000 of 145.3. The recorded rate has, roughly, doubled during the past 35–40 years.

There is a remarkable regularity in the contribution of certain organs year by year to the total cancer incidence, it being understood that the mortality can be regarded as a reliable indication of incidence. The proportional frequency for males and females separately, for the decade 1918–27, is given in the following tables:

ENGLAND AND WALES

Proportional Frequencies of All Sites of Cancer Expressed as Rates per Thousand of All Deaths from Cancer, 1918-1927

Males

Site	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
Lip	13	13	13	13	12	11	10	12	10	11
Tongue	62	63	58	55	52	50	50	49	44	47
Mouth and Tonsil	27	28	28	29	26	29	29	28	30	29
Jaw	28	26	26	24	23	25	20	22	21	21
Pharynx	13	13	12	13	13	12	13	13	13	13
Oesophagus	66	70	66	70	70	68	68	70	66	62
Stomach	203	201	208	214	217	221	214	221	222	227
Liver and Gall Bladder	102	102	94	87	86	77	75	71	69	63
Mesentery and Peritoneum	7	5	5	6	6	5	7	5	5	4
Intestines	107	114	112	114	117	115	124	119	129	130
Rectum and Anus	102	102	107	105	102	107	105	107	107	104
Breast	2	1	2	2	2	2	2	2	2	2
Penis	11	10	10	9	10	6	8	6	7	6
Scrotum						3	3	2	3	3
Other Skin	25	27	25	26	24	26	25	24	24	24
Larynx	31	28	32	31	32	32	31	33	34	32
Lung and Pleura	14	14	16	17	20	18	21	21	24	27
Pancreas	17	18	21	21	24	25	26	25	26	30
Kidneys and Suprarenals	10	9	10	10	11	11	9	11	11	11
Bladder	34	32	33	29	30	29	31	31	30	30
Prostate	29	33	33	37	40	44	44	46	47	47
Testis	5	5	5	5	5	4	5	4	4	6
Brain and Meninges	2	2	2	2	3	4	3	3	2	3
Bones (jaw excepted)	19	17	16	17	15	16	17	16	16	16
Other specified organs	33	32	35	33	34	35	36	35	33	33
Abdominal cavity (organ unspecified)	7	6	6	6	5	5	4	5	4	3
Other and undefined	31	29	25	24	21	20	20	19	17	16

With respect to the table for men, it will be seen that for certain organs the proportion of deaths is almost exactly the same at the beginning of the decade as at the end. In this category we may include lip, mouth and tonsil, pharynx, oesophagus, rectum and anus, breast, penis and scrotum, other skin, larynx, kidneys and suprarenals, bladder, testis, brain and meninges, bones and other specified organs. There are apparently two exceptions to this general rule. These are tongue and jaw. They are probably related, since cancer of the tongue in its later extensions to the jaw may be certified as cancer of the jaw. Taking the two together then as cancer of the tongue, a distinct diminution of the proportional frequency is apparent over the decade. If it be true that a proportion of cancers of the tongue originates in old syphilitic lesions or in conditions arising from defective oral hygiene, it would be reasonable to attribute this decrease to the higher curability of syphilis by modern methods of treatment, and improved hygiene of the mouth. (There is little or no evidence of improved curability rate for developed cancer of the tongue.)

In certain organs there is a definite rise in proportion of frequency over the decade. This is noted in stomach, intestines, lung and pleura, pancreas and prostate. In these more inaccessible sites it seems reasonable to attribute the higher proportional incidence during the decade to improvement in diagnosis resulting from more highly developed clinical methods or greater accuracy of death certification. There is a decreasing frequency in cancer of the liver and gall bladder, mesentery and peritoneum, unspecified organs of the abdominal cavity, and other undefined organs.

ENGLAND AND WALES

PROPORTIONAL FREQUENCIES OF ALL SITES OF CANCER EXPRESSED AS RATES PER THOUSAND OF ALL DEATHS FROM CANCER, 1918-1927
FEMALES

Site	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927
Lip	1	1	1	1	1	1	1	1	1	1
Tongue	6	5	5	4	4	4	3	4	4	4
Mouth and Tonsil	3	3	3	3	3	3	3	4	4	3
Jaw	7	7	7	6	6	7	7	7	7	6
Pharynx	3	3	4	3	3	3	3	3	3	3
Oesophagus	19	16	18	18	18	18	19	19	18	18
Stomach	138	141	149	146	156	156	155	160	167	164
Liver and Gall Bladder	116	108	103	102	97	88	85	84	80	74
Mesentery and Peritoneum	12	12	10	9	9	9	9	8	9	7
Intestines	126	122	124	125	123	127	133	132	140	138
Rectum and Anus	63	63	64	65	61	65	61	61	61	62
Ovary and Fallopian Tube	24	23	25	29	31	32	34	32	34	38
Uterus	178	177	170	173	165	164	161	160	153	153
Vagina and Vulva	13	13	13	12	13	14	12	13	14	12
Breast	176	184	186	185	188	188	189	192	184	196
Skin	17	18	16	16	17	16	17	15	15	16
Larynx	6	7	7	6	7	6	7	7	7	7
Lung and Pleura	6	8	8	7	8	8	9	10	9	10
Pancreas	12	13	16	16	18	19	19	19	22	21
Kidneys and Suprarenals	7	8	7	8	7	7	9	8	8	9
Bladder	11	10	11	11	10	13	12	12	11	12
Brain and Meninges	1	1	2	2	2	2	2	2	2	2
Bones (jaw excepted)	13	14	12	13	13	12	14	11	11	11
Other specified organs	17	20	20	19	21	20	19	21	21	20
Abdominal cavity (organ unspecified)	13	13	10	11	10	10	9	9	7	6
Other and undefined	12	10	9	10	10	8	8	8	8	7

Females

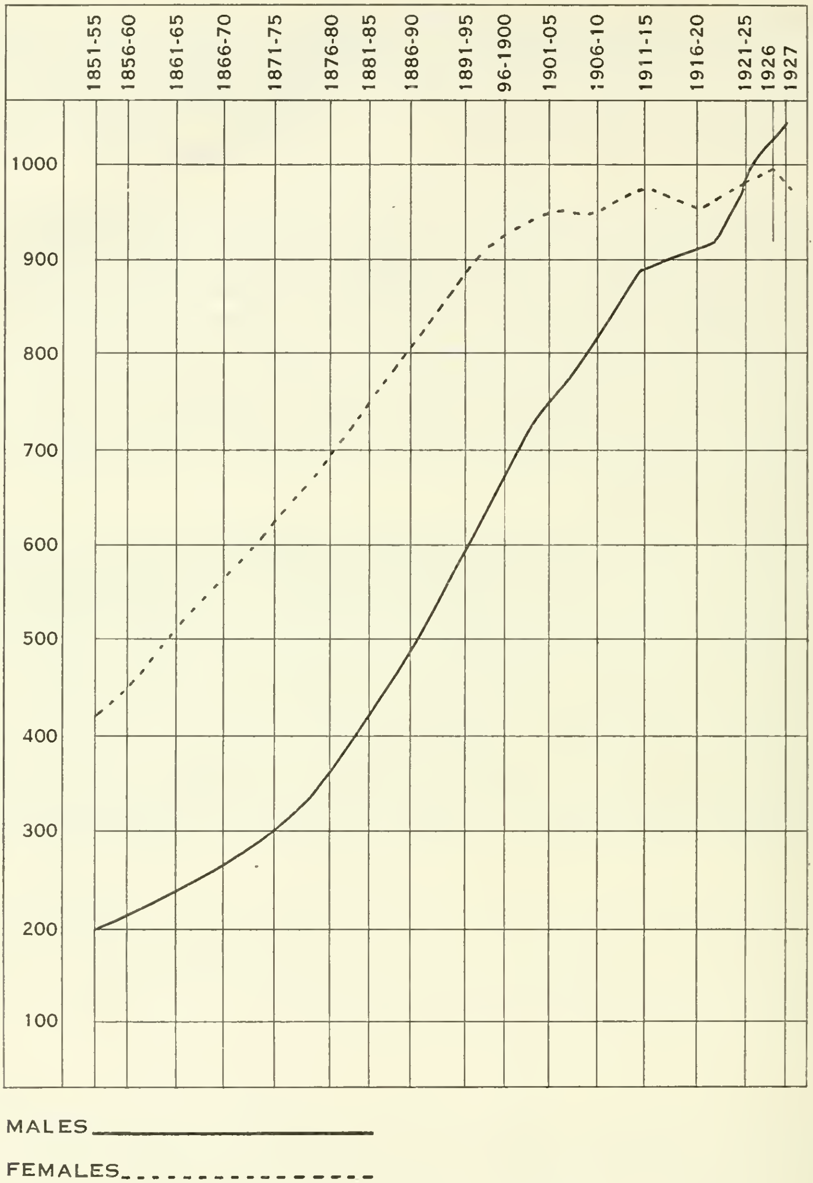
Reference to the table will show a similar condition in respect to females. The proportional incidence has remained steady for the decade in lip, mouth and tongue, jaw, pharynx, oesophagus, rectum and anus, vagina and vulva, skin, larynx, bladder, brain and meninges, bones and other specified organs, that is, in the main, the same accessible group of organs as in males.

Increased incidence is shown in the same organs or sets of organs as in males—stomach, intestines, lungs and pleura, pancreas and, in addition, some of the sex organs, viz., ovary, fallopian tube and breast. There is an exception, namely, in the uterus. It is well known that mortality from uterine cancer has been falling for some years past, and its explanation is possibly to be found in improvements which have taken place in the care of women during and after childbirth, by diminishing those local effects on the cervix which are accepted as precursory to cervical cancer. The diminution in females, with the exception of the uterus, corresponds with those mentioned above for males. Generally, then, it would seem from a consideration of these tables, that the susceptibility is of a kind which is steady for both males and females in a certain group of organs, but is at a considerable higher level in males for many organs common to both sexes, than it is in females. In other groups it apparently varies during a decade, increasing in some organs and decreasing in others.

For exposed sites of the body the cancer mortality increases steadily from the highest to the lowest social class of people, while for other sites the mortality is approximately the same for all classes of people. The association of increased mortality with lowered social status is shown for all parts of the digestive system from the lip to the pylorus, for the larynx and for the skin. For all other sites of cancer no such regular association is shown; for them the mortality is with few exceptions approximately the same for social classes. Regarded from this aspect susceptibility or resistance, is a factor which in some organs remains constant whatever the social status, the variation being of a regularly graduated type.

From the above considerations one appears justified in drawing the general conclusion that, of the two factors concerned in the causation of cancer, viz.: previous local disease or injury and susceptibility or resistance, the former is the more important. It would appear that the latter is of a kind which varies with the organ concerned, remaining steady in some sites, increasing or decreasing in others, that it varies with sex and probably also with age.

In regard to the question of susceptibility, to which an important role in the causation of cancer is sometimes attributed, one may note the changes which have taken place in the comparative total mortalities among males and females during the past seventy-six years as shown in the following chart:



From this it would appear that the susceptibility of females in 1851–5 was more than double that of males, whereas about the period 1921–25 the susceptibility of the two sexes was approximately the same. During the past few years, the susceptibility of males has presumably been greater than that of females. In other words, the susceptibility of males is of a different order from that of females, and both show progressive change.

Cancer Mortality in Australia

Type and Seat of Disease

For the year 1928 the following table shows the type of disease and mortality for each type in both male and female:

DEATHS FROM CANCER—TYPE AND SEAT OF DISEASE, AUSTRALIA, 1928

Type of Disease	Males	Females	Persons
Carcinoma	2,061	2,019	4,080
Cancer	422	398	820
Malignant Disease	246	201	447
Sarcoma	143	128	271
Epithelioma	159	47	206
Malignant Tumour	38	48	86
Rodent Ulcer	31	22	53
Scirrhus	1	8	9
Neoplasm	4	6	10
Hypernephroma	15	13	28
Total, Deaths	3,120	2,890	6,100

Seat of Disease	Males	Females	Persons
Stomach and Liver	1,333	832	2,165
Peritoneum, Intestines and Rectum	507	499	1,006
Female Genital Organs	....	557	557
Breast	....	498	498
Buccal Cavity	346	27	373
Skin	109	60	169
Other Organs	825	417	1,242
Total, Deaths	3,120	2,890	6,010

Ages

There were 6,010 persons who died from cancer in Australia in 1928, and while the maximum mortality is found between the ages of sixty-five and seventy, the ages below thirty-five are not immune.

GENERAL FIGURES

Malignant Disease	Total	No Information, Not Improved or Died	Improved	Well at Date	Prophylaxis
Cancer of Cervix	85	38	26	21	...
Vagina	10	4	3	3	...
Body of Uterus	2	2	1	0	...
Skin	98	31	25	42	...
Lip	46	10	9	26	2
Tongue	40	23	12	8	...
Buccal Cavity	59	36	15	2	...
Pharynx	5	4	0	0	...
Larynx	76	11	0	0	...
Bladder	8	5	3	2	...
Prostate	6	8	1	1	...
Rectum	14	6	4	2	...
Breast	20	...	11	...	...
Glands	25	15	9	...	...
Various	8	4	2	...	...
Sarcema Maling Disease	34	21	8	5	...
Various	6	1	2	2	...
Total	483	224	134	123	2
Rodent Ulcer	245	22	36	187	...
Benign Conditions	118	5	35	78	...
Grand Total	846	251	205	388	2

Comment on Results

Results in treatment of tongue and nasal cavity are disappointing. The majority of cases which did not improve were unsatisfactory, owing to development of secondary glands.

In Australia, as in England and elsewhere, the idea of burying radium needles is the thing which has appealed most to the general medical imagination and it has been difficult, because it requires more technical knowledge, to induce centres to develop to the necessary extent application of radium from the surface.

Cancer of the skin shows scope for improvement.

Cancer of the cervix shows twenty-five per cent. of immediate apparently perfect results.

Deep X-rays have given some very gratifying results.

Follow-up has been giving some little difficulty but the number of missing cases are, so far, comparatively small.

The Future

The Australian experiment in cancer treatment and organization has been justified, many people having been completely or partially relieved of symptoms of cancer and there seems definite promise of steady progress in the future.

The standard set should be maintained and improved. This great national experiment should, it is felt, be maintained as a unity. The organization is the nucleus of a great scheme and represents an attempt to deal with the cancer problem on modern lines by methods which bring to bear on the question both national and local powers of organization and initiative.

Cancer Mortality in the United States of America

Cancer in the United States causes ninety-six deaths among every 100,000 of the population (1927). In a population of 120,000,000 this means the annual deaths of about 120,000 persons. In 1900 this death rate was sixty-three. As in most civilized countries cancer has ousted tuberculosis from its former position as a killing disease. In 1900, tuberculosis stood first in this regard with a rate of 201; it has now (1927) dropped to eighty-one per 100,000.

Considerable investigation has been made of the cancer situation in the United States, particularly by Hoffman, whose studies relative to cancer in the large cities, especially in California and in some of the Southern States, are of high interest, showing, as they do, that cancer is increasing among the white population and also among negroes closely associated with whites. Hoffman has also been able to show the low reported cancer rates among various Indian tribes of the United States corresponding to what is reported in respect to cancer among the primitive races elsewhere.

In the registration area during the year 1929, (Bureau of Census, U.S.A.), heart diseases had the highest mortality with a rate of 210 per 100,000 of estimated population; cancer came next with a rate of 96; pneumonia (all forms), with 91.7; nephritis, with 91.2; cerebral haemorrhage and softening, with 86.1; and tuberculosis with 76.0.

The chief regions of the body were affected with cancer as follows: stomach and liver, 32.6; intestines and peritoneum, 14.6; female genital organs, 13.7; breast, 8.8; buccal cavity, 3.0; skin, 2.5.

There was great variation of the incidence of cancer, judging from the mortality, in different states and cities. In 1927, Maine, with a rate of 137.2; New Hampshire, with 134.7; California, with 134; and Vermont, with 131.7, had the highest rates, while the following had the lowest, viz.: South Carolina, 41.2; Arkansas, 41.5; Arizona, 47.7; and North Carolina, 50.3. Only four of the cities, viz.: Norfolk, 55.2; Fort Worth, 59.9; Youngstown, 73.8; and Detroit, 78.4, had rates below 80. The highest rates were found in Albany, 182.4; Cincinnati, 157.7; San Francisco, 156.4; Boston, 154.8; and Spokane, 151.4. The high rates in certain cities and states may be due to the fact that the former are great centres for treatment, and that certain states possess a mild climate which attracts elderly people.

The adjusted mortality rates for cancer taken for different periods show that in ten states in the registration area, this rate increased in the period 1910-20 from 60.7 to 87.8 per 100,000 of population and reached 102.2 in 1927. Between 1920 and 1927 the rates for each six below 45 years showed comparatively slight change, but for the later ages there was a continuous increase, the greatest (258) appearing for males of seventy-five years and over. For the thirty-four states in the registration area in 1920, the adjusted rate rose continuously from 78.3 per 100,000 of population, to 93.2 in 1927. This increase was found in both males and females. In 1928 the mortality rate was 96.1 and in 1929, 96.0 per 100,000 of population.

California

The cancer rate is high in the Pacific Coast States. In California the number of deaths for 1929 were 117 more than for 1928. The total cancer deaths for 1929 were 6,518, an average of eighteen deaths for each day of the year. This represents a rate of 146.4 per 100,000 of population, as compared with 96 for the United States registration area. For the first time in the history of the State, in 1928, the cancer deaths exceeded those from tuberculosis. In 1929 this excess was increased from 328 to 663. Each year the number of cancer deaths increases consistently. Cancer caused ten per cent. of all deaths in California in 1929, while tuberculosis caused less than nine per cent. of deaths that occurred in the State. The migration of large numbers of elderly persons to enjoy the climate of California, is perhaps a factor in the large cancer rate just as migration of tuberculous individuals is a factor in the large tuberculosis rate. Out of the total of 6,518 cancer deaths in 1929, only 874 were persons who had been born in California; 3,447 were born in other States, 2,153 were born in foreign countries, while the origin of 44 is unknown.

Most deaths occur in the last forty-five years of life. The following table gives the age distribution:

Age Group	Numbers
Under 1 year	5
1- 4	19
5-14	12
15-24	33
25-34	124
35-44	515
45-54	1,189
55-64	1,694
Over 65	2,927

Cancer is reported to cause more deaths in women than in men. There were 3,376 cancer deaths in women and 3,142 in men.

New York State

In 1900 the death rate from cancer was sixty-seven per 100,000 of population. In 1928 the rate was 126.7. Deaths and rates from 1924–1928 inclusive were:

Year	Deaths	Rate per 100,000 of Population
1924	12,791	116
1925	13,201	118.2
1926	13,613	120.3
1927	14,333	125.0
1928	14,709	126.7

Exclusive of New York City the figures for the same period were:

Year	Deaths	Rate per 100,000 of Population
1924	6,234	119.9
1925	6,417	121.2
1926	6,580	122.0
1927	6,876	125.1
1928	6,984	124.8

A study of New York figures seems to indicate: (1) That cancer is increasing in the State of New York exclusive of New York City, but not in a constant ratio, the rate for 1928 being lower than that for 1927. (2) If there were 7,000 deaths from cancer in New York State, there must be about 21,000 cases of cancer in the State, all the time assuming that the average life of the cancer patient is three years. (3) As a rule in those countries in which cancer is looked upon as a problem capable of solution, or at least of improvement, the death rate tends to be lower than in those countries in which this is not the case. In New York State in the counties where there are medical colleges and in which the medical profession is awake to the cancer problem, the rates are usually lower than for the State at large, exclusive of New York City. (4) Educational activities are called for, both by the profession and the laity throughout the State, particularly in the rural communities. (5) If we could get the physician and the laymen to regard cancer as a problem to be solved instead of a hopeless situation, further improvement may be expected.

Recent Statistics for Massachusetts

As an indication of the clinical work done in Massachusetts, analysis of the records shows that the total attendance at cancer clinics n 1930 was 2,499, an increase of 393 over the total in 1929.

The percentage of individuals with cancer was 25.5 and of those with precancerous conditions 7.2. The median age of clinic attendance was 50.2 years, and patients came to the clinics from 191 cities and towns of the State.

The records include interesting data respecting the delay in obtaining treatment. The median delay between first symptoms noticed by the patient and the first visit to a physician was 6.7 months; an interval of 12.1 months existed between the first symptoms and the first visit to a cancer clinic. The longest duration of delay before a first visit to a physician was in skin cancer—14.5 months, and the shortest was in cancer of the uterus, 3.8 months. Before the first visit to a cancer clinic patients with skin cancer delayed for 24.4 months; with cancer of the uterus, 5.5 months. Cancers of the buccal cavity, uterus and breast showed a shorter delay in 1930 than in 1929. The percentage of patients who came to the clinics from physicians was 36.0 per cent. as compared with 34.4 per cent. in 1929. Newspaper publicity proved less effective in 1930 when 31.6 per cent. of cases came because of this stimulus, contrasted with 1929 when 35.4 per cent. came for this reason. Over one-half the patients with cancer or precancerous conditions were referred by physicians.

Cancer of the uterus dropped from 10.9 in 1929 to 2.8 in 1930; of the breast the percentage was about the same, 13.0 per cent. plus; skin cancer showed a slight decrease, while stomach and buccal cancer showed an increase and approximately one-fifth of the total cases had never previously seen a physician.

Swelling and ulceration continued to be the leading causes bringing cancer and precancerous patients to the clinics. Pain brought the largest per cent. of other conditions to the clinics.

Labourers, farmers and carpenters showed the highest sick rate, and farmers delayed the longest of any before visiting the clinics.

Of the cancer cases forty-four per cent. were considered operable with a probable chance of cure. Over four-fifths of the skin cases, over one-half of buccal and oesophageal cases, one-fifth of uterus, breast and other groups, and a very small percentage of stomach cases, were in this classification.

Information of this sort shows the careful study of cases of cancer in Massachusetts and forms a line of action worth copying in Ontario.

Cancer Mortality in Denmark

Denmark, like Sweden and Finland, has a high reputation for the excellence of its medical organization. In 1925 the population of one and one-half millions had 2,142 cancer deaths or 123 per 100,000 of population. This rate has been uniformly high as far back as 1901. It is an acknowledged fact that when the cancer death-rate or mortality from any disease of a country has reached an unusually high point of frequency, a further material increase is not to be expected. The persistent maximum rate for large cities is placed by Hoffman at 150 per 100,000. The cancer mortality in Danish cities and towns 1901-1925 is as follows:

1901—125.2
1902—131.3
1903—124.8
1904—131.6
1905—132.4
1906—131.4
1907—138.2
1908—133.8
1909—141.0
1910—141.7
1911—142.0
1912—150.1
1913—145.6
1914—145.3
1915—151.1
1916—151.0
1917—148.5
1918—144.0
1919—144.0
1920—144.5
1921—136.0
1922—149.7
1923—151.1
1924—147.3
1925—145.0

It appears that while the deaths have increased about sixty per cent. the population in the meantime has increased about fifty per cent. *The cancer rate of Denmark is probably one of the highest on record for any country at the present time.*

In 1925 there were 4,744 deaths from all forms of cancer, giving a rate of 135 per 100,000 population; of these, 36.5 per cent. were from cancer of stomach; 7.0 per cent. from cancer of the breast; 49.6 per cent. from cancer of other organs and parts.

Cancer Mortality in Holland

Cancer in Holland is on the increase. The cancer rate for males in Amsterdam rose from 109.5 in 1905-09 to 118.2 in 1915-19, and that for females from 107.0 to 119.7. Between 1875 and 1914 the rate increased from 60.6 to 114.6 for males and for females from 79.1 to 114.9. In 1890 the rate was 83.2 per 100,000 of population for both sexes; in 1910 it was 121.1 and in 1920 it was 127. There were thirty deaths from cancer of the breast in 1905 and forty-six in 1920. While there were fifty-one deaths from cancer of the female genital organs in 1905, there were eighty-one in 1920.

Cancer Institute

The Dutch Cancer Institute at Amsterdam is said by Hoffman to afford an inspiring experience. Those in charge are said to represent the finest type of mind that could be brought to bear upon the scientific consideration of cancer questions. Professor De Vries, referring to the Amsterdam statistics, is of the opinion that "Mortality returns give too favourable an impression of the prevalence of cancer in general, and probably also of some important forms of cancer particularly cancer of the stomach and intestines." He emphasizes the importance of a joint consideration of autopsy and mortality returns.

Cancer Mortality in Switzerland

Francis Carter Wood, M.D., of New York, a leading cancer authority, made the statement in the *New York Times* in 1927 that "Cancer in Switzerland has not increased during the last twenty years." This statement appears to be negatived by the following figures (Hoffman):

CANCER RATE OF SWITZERLAND, 1915-1926

Year	Cancer Deaths	Rate per 100 Thousand
1915	4,614	118.9
1916	4,677	120.5
1917	4,838	124.5
1918	4,874	126.3
1919	4,880	126.0
1920	5,018	125.9
1921	5,062	129.2
1922	5,051	130.1
1923	5,421	129.5
1924	5,319	135.1
1925-26	5,356	135.3

In Basle the local cancer rate has increased from 135.4 in 1901 to 196.4 in 1925, and in 1918 actually reached 217.7. In this connection the rate for certain European cities is of interest.

CANCER MORTALITY—EUROPEAN CITIES

(Rate per 100,000 Population)

Age	Vienna	London	Paris	Basle
Males:				
20-29	9.7	7.5	4.3	6.3
30-34	22.1	15.0	14.3	24.5
35-49	38.6	38.5	26.2	29.1
40-44	73.9	62.7	49.7	89.3
45-49	159.7	134.1	133.8	177.8
50-54	314.4	280.8	267.0	301.7
55-59	510.0	465.1	420.1	512.5
60-64	807.9	705.3	616.8	897.8
65-69	931.1	938.6	753.0	1,024.6
70-74	1,276.3	1,115.7	911.2	1,767.0
Ages 20 and over	136.9	130.0	111.9	235.3
Females:				
20-29	11.5	6.4	6.3	2.6
30-34	36.8	26.1	29.8	6.0
35-39	62.5	55.8	52.0	34.0
40-44	128.1	100.6	119.1	61.7
45-49	216.2	188.7	198.7	142.2
50-54	332.1	279.1	282.2	335.0
55-59	415.7	390.5	404.4	395.0
60-64	463.8	535.3	512.2	471.9
65-69	742.2	652.2	661.2	721.5
70-74	979.4	823.4	727.7	1,053.7
Ages 20 and over	149.8	129.6	133.9	192.7

During 1921-25, 45.6 per cent. of the deaths from cancer occurred in hospitals, while 41 per cent. of the dead in the city and canton of Basle came to autopsy.

No such figures are reported for any other country or section in the world.

CANCER MORTALITY IN NORWAY

A thoroughly scientific study of cancer has been under way for a number of years. Professor Gade, who is a leading authority and Chairman of the Cancer Committee, places the mortality for 1911 at 95 to 100,000 of population, and for the period 1902-1911, 107.

The urban population of Norway is relatively small, and cancer seems to be distributed about equally between city and country, but, curiously enough, that of Oslo and Bergen, the leading cities, is low. Towns along the Skagviak have high rates, 140 to 158. Here there are many old, retired sailors. Sarcomas account for 5.36 per cent. The rate for the sexes is about the same.

CANCER IN NORWAY BY ORGANS AND PARTS, 1902-1911

	Male	Female	Total
CANCER:			
Stomach	7,037	5,712	12,749
Liver	751	755	1,506
Sexual Organs	125	1,343	1,468
Breast	4	838	842
Other Organs	2,175	2,076	4,251
Total	10,092	10,724	20,816
SARCOMA:			
Osseous System	258	197	455
Other Organs	363	342	735
Total	621	569	1,190
Grand Total	10,713	11,293	22,006

MORTALITY FROM CANCER BY ORGANS AND PARTS, NORWAY, 1903-1911

Age	Number of Deaths	Rate per 100,000
20-30	108	3.23
30-40	586	21.25
40-50	2,067	91.79
50-60	4,498	231.65
60-70	6,183	443.03
70-80	5,610	680.11
80-90	1,790	549.90
90 and over	88	289.00

Besides there were 21 cancer deaths below the age of 20 years due, chiefly to cancer in ovaries, uterus and breast.

In 32.5 per cent. the disease had occurred in other members of the family, or in neighbours or near friends.

In 1924 the cancer rate of Norway was 111.4 per 100,000—the total deaths in 1924 were 3,056, four being under one year, nine from 1 to 4 years, seven from 15 to 19, and 11 from 20 to 24, with steady deaths from cancer at 90 to 99.

Cancer Mortality in Sweden

There are some interesting things in respect to cancer to be found in Sweden. That country, or at least the city of Stockholm, has had registration of vital statistics for perhaps longer than any other country in the world, and a medical profession fully the equal of any as regards competency and accuracy of diagnosis. The death-rate from cancer increased rapidly from 1861 to 1869, when it had reached 105 per 100,000 of population. Then it fluctuated more or less, dropping to 88 in 1890. From 1891 onward except for the year 1904 (when the rate was 94), it has never fallen below 100 per 100,000 population. In 1908 the rate was 128, in 1924, 124, after which it has risen steadily, being 144 in 1925 and 142 in 1926.

The most suggested increase has been the mortality from cancer of the uterus of which there were 700 deaths in five years (1917-24), and 928 in the period 1921-26.

Cancer Mortality in Russia

Hoffman states that the incidence of cancer in the whole of the Union of Soviet Republics in 1924 was approximately 150,000 or a mortality rate of 100 per 100,000. He is inclined to accept these figures with reservations, but has no doubt of the fact that cancer in Russia is increasing. For Leningrad the mortality rate has risen from 76.5 in 1885 to 118.0 in 1926. For Moscow, the rate of 87.4 in 1894 had reached 95.9 in 1924.

Hoffman expresses a profound admiration for the management of the Leningrad Cancer Institute, considering the limitation of means preceding rapid expansion. The radium and X-ray equipment, he says, is admirable, but the institute lacks the best type of instruments.

High praise is given the Director, Professor Anna Jugenburg, who, he says, possesses high qualifications and enthusiasm for her work.

Cancer Mortality in Finland

The statistics for Finland, apart from those of large hospitals, are said to be incomplete. Those for the cities indicate a mortality rate of 108 per 100,000 of population, which conforms more or less to those of other Scandinavian countries.

From a table of the rates of cancer mortality in hospitals it appears that the death-rate has risen from 3.8 per cent. in 1896 to 8.11 per cent. in 1923.

The life insurance companies find the cancer mortality increasing among their policy-holders.

Cancer Mortality in Germany

The cancer mortality figures for Germany, as supplied by the Federal Board of Health (1920-1925), indicate the usual general increase observed in other countries.

For males there was an increase during this period from 79 per 100,000 population to 93, and for females from 95 to 110. For both sexes combined, the increase was from 87 to 102. The most marked increase was observed at ages over 70, or respectively, for males from 692 cases to 802 cases, while for females there was an increase of from 639 to 742.

In the city of Hamburg there has been an increase in the cancer death rate at all ages of from 126 per 100,000 during 1921-1925 to 130.9 during 1926.

Cancer Mortality in France

In 1927 the cancer deaths were 38,508, there being 16,945 males and 21,563 females. Cancer deaths formed 5.7 per cent. of all deaths. The mortality rate for males was 86.4 and for females 102.6, or a general rate of 94.5.

Roussy and Hereaux, from a study of cancer statistics of European countries, Canada and the United States conclude that there has been an increase of cancer mortality, but not so large as some of the statistical reports lead one to believe. However, the 38,508 deaths in one year in France indicate that cancer is a problem of no small magnitude in that country.

Cancer Deaths in Bulgaria in 1927 were 3.7 per cent. of all deaths, the total deaths from this cause in 1925, 1926, and 1927 being respectively 578, 664, and 713.

In Czechoslovakia, in the years 1921-27 the mortality has steadily increased from 297 per 100,000 of population at 40 and over to 359 in 1927.

In the Grand Duchy of Luxembourg, the cancer deaths in 1925, 1926 and 1927 were respectively 133, 142 and 152.

In Hungary the number of cancer deaths rose from 6,942 in 1925 to 7,521 in 1927.

In Italy, while the deaths from malignant diseases in the period 1921-1925 have shown a decrease of 13.0 per 100,000 of population, there has been a steady increase in the city of Milan of 22.0 per 100,000 of population from 1901 to 1905.

Cancer Deaths in Scotland during the fifty years, 1878-1928, have increased from 51 per 100,000 of population to 141.

In Esthonia the mortality rate in persons over 40 has increased in the years 1921-28 from 151.0 per 100,000 of population to 216.

In Spain the total deaths in 1928 were 15,727 and formed 3.8 per cent. of all deaths.

In Portugal in 1925 there were 1,975 deaths from cancer, or 1.8 of all deaths.

Cancer in India

Referring to the commonly accepted statement that cancer is less prevalent in primitive than in white races, Sir Leonard Rogers, one of the foremost pathologists of the age, writing in the *Glasgow Medical Journal*, January-February, 1925, states:

> (1) Malignant tumors, both connective tissue and epithelial types, are about equally common in Bengal and England, with a slight excess in the tropical country, which is quite contrary to the statements of those who maintain that civilized races suffer eight times as much from them as do uncivilized peoples.
>
> (2) Both innocent and malignant connective tissue tumors are considerably more common in Bengal than in England, while the reverse is the case with both innocent and malignant epithelial tumors, which supports the view that the innocent forms shade off into or may take on the characteristics of malignant ones.
>
> (3) The slightly lower incidence in Bengal of the malignant epithelial tumors of carcinomata is fully explained by the age factor, as the higher rate in London is more than accounted for by the great excess of persons of the cancer age of over 40 or 50 years in England as compared with Bengal.

(4) Cancers of the tongue, esophagus, stomach, large intestine, and breast show considerable excess in London pathological examinations, while those of the skin, penis, both the cervix and body of the uterus, liver and gall bladder are in excess in India. Nearly all of this is explainable by the known laws of long-continued irritation being the most important predisposing or exciting cause of cancer.

(5) The three-fold excess of cancer of the uterus in Bengal is probably related to early menstruation, child-bearing and menopause in the Bengali race leading to earlier and more frequent development of cancer in them as compared with European females.

(6) In future the onus will lie on those who proclaim the rarity of malignant growths in uncivilized races of proving their assertions by extensive and accurate pathological data such as those upon which the above conclusions are based, for about 90 per cent. of the Bengal population who furnish a large proportion of the Calcutta hospital cases live in villages under primitive conditions and on a diet of natural foods.

While the foregoing statement flatly contradicts many of the prevailing views regarding cancer in the primitive races they open a wider field of conjecture. But the fact must not be overlooked that the Calcutta mortality data were based upon 1,600 post-mortems while they are compared with corresponding post-mortems for St. Mary's Hospital, London, and made available through Drs. Kettle and Newcomb, the former of whom is a distinguished pathologist and authority on tumors. Sir Leonard Rogers further points out that "the prevailing type of malignant disease (in Bengal) is chiefly sarcoma which is met with twice as frequently in Calcutta as in London. The very malignant small-cell sarcoma shows 110 in Calcutta as against 23 in the London series; the melanotic form is more frequent in dark-skinned races."

Sarcomas are said to be more frequent in dark races.

The New Journal of South Africa says: "That among Asiatics primary hepatic cancer is remarkable frequent, intestinal cancers rare and that the age incidence in uterine cancer is remarkably low." *The Journal* concludes that the alleged rarity of cancer in the tropics is more apparent than real, chiefly because the age incidence is not taken into account, and that when we are in a position to compare reliable data, it will be found that there is no great difference in the incidence of European and tropical group, but that there does exist a remarkable difference between the two as regards the site incidence of cancer.

The experience of the Oriental Government Security Life Assurance Company, Limited, Bombay, for 1912-21, shows that for the first five years of the period they had 3,928 deaths of which 61 or 1.6 per cent. were from cancer. The highest relative rate of frequency was in 1913 when the proportion was 2.2 per cent., the different racial elements contributing as follows:

	1912–16	1917–21
Hindus	1.1%	1.0%
Europeans	4.7%	3.6%
Parsees	2.2%	0.9%
Mohammedans	0.8%	0.8%

During the five years ending with 1921 there were 5,345 deaths with 69 or 1.3 per cent. from cancer. The highest rate of proportionate incidence was in 1918 and was 2.3 per cent. of the percentage for the races.

Kangri-Burn Cancer

Sir John Bland Sutton in his work on tumors observes that according to Neve, in twenty years at the Kashmir Mission Hospital, out of 4,902 tumors removed 1,720 were malignant, 1,189 were cancer and of these 848 were on the thighs and abdomen. The frequency of skin cancer among the Kashmiri is attributed to the use of a portable fire-basket called a kangri, consisting of an earthern pan containing burning charcoal in a basket which, suspended from the waist under the loose robes, keeps the person warm. The average duration of life in a kangri-burn is fifteen months; in 10 per cent. of the cases 1 to 5 years, and even as long as twenty years. The burn may be due to the heat or the tar, or both. At all events this type of burn is limited to the people of the highlands of the Himalayas who use the kangri.

APPENDIX B

INDUSTRIAL OR OCCUPATIONAL CANCER

INDUSTRIAL OR OCCUPATIONAL CANCER

There seems to be a definite relationship between the incidence of cancer and certain occupations. The chief of these occupations are:

(1) Work in tar, pitch, and bitumen briquettes.

(2) Work in mineral oil or paraffin or in any compound, product or residue of either of these products.

(3) Work in arsenic.

(4) Work in X-rays and radium.

(5) Work in mines, e.g., the lung affection of Saxon miners called "Bergkrankheit."

(6) Chimney-sweeps' work.

(7) Work in aniline dyeworks.

The specific irritants or carcinogenic agents appear to require a long time to show their effects. They appear to be selective, in that certain animal species, certain strains, certain individuals and certain tissues only are vulnerable to their operation, e.g., cancer of scrotum in chimney-sweeps; cancer of the urinary bladder in dyeworkers.

1. Workmen constantly exposed to tar or pitch, such as retort men in gas works, road sprayers and briquette makers are liable to develop skin cancers. Animal experiments seem to show that cancer can result long after the irritant is withdrawn. Thus, in some cases of cancer the antecedents of which are hidden from us, some irritant may have been in action and have disappeared, leaving no evidence of its presence long before the cancer declared itself.

2. For fifty years it has been known that workmen exposed to the action of crude products obtained by distillation of the oil-bearing shales of Scotland and of the lignite of Germany, are prone to develop skin affections, papillomata and epitheliomata, especially on the arms and not infrequently on the scrotum.

Mulespinner's disease (epithelioma of the scrotum) is fairly common in Lancashire and other places where cotton is manufactured. It is attributed to soaking of the parts by the lubricating oil thrown off the spinner. This type of cancer affects by preference the left side of the scrotum, the more exposed to oil, but also the thighs, forearm, face and neck. Approximately 2.5 per 1,000 mulespinners develop this disease.

3. *Work in Arsenic.*—Arsenic cancer has been seen in the very dusty process of manufacturing "sheepdip" which is an arsenite of soda containing arsenic sulphide and free arsenious acid.

The resulting disease is a squamous-cell cancer. There are pigmentation, keratoses and single or multiple malignant growths on face, abdomen, buttocks, clavicle or lower chest.

J. A. Paris in 1820 described arsenic cancer of the scrotum in tin smelters.

4. *X-ray Cancer.*—Most of us know one or two X-ray workers who have lost portions of fingers, a hand, or their lives, from neglect to protect themselves against the X-rays. There s probably less of this now because the danger of such neglect is better known. Similarly, neglect to use protection against radium is dangerous. The protective agent is lead.

5. "Bergkrankheit" is a pulmonary affection known for several centuries among the miners of the Erzebirge of Saxony, which as a rule proves fatal in middle life. The disease has been known since 1897 to be due to malignant tumours of the lungs. An inquiry into the subject was initiated in 1922 lasting 3¼ years. This inquiry showed that the dust contained bismuth, cobalt and arsenic and that the air was radio-active.

The course of the disease is marked by bronchitis, dyspnoea, noisy breathing, emaciation and death, the process lasting for years. No satisfactory etiology has yet been solved.

6. *Chimney-sweeps' Work.*—Leitch, (*British Medical Journal*), says that this form of cancer is probably as common to-day as ever it was. There are five or six deaths from it a year in England. It is practically unknown on the continent, relatively common in Ireland, very rare in Scotland, and absent from those countries where the practice of putting boys into chimneys to clean them is unknown. The exciting agent is soot and the soot of the more bituminous coal from the Midlands is said to be the most tumour-producing.

7. *Aniline Dyeworks.*—Furriers and dealers in skins show a mortality from cancer above the average. It may be that the use of aniline dyes has something to do with this mortality. The disease shows a preference in dyeworkers for the urinary bladder.

With reference to lead workers, Hoffman states that he has made an analysis of nearly 2,000 death certificates of lead workers in the United States, and in not a single instance did he find evidence of malignant tumours given as a contributory cause of death. If there is anything in the lead treatment of cancer, the significance of the foregoing is apparent.

* * * * * *

Statistics show that in the last few years, cancer has steadily increased its toll among industrial classes, both in Canada and the United States. A further important phase of the cancer problem was brought out by statisticians of the Metropolitan Life, following an analysis of the cancer mortality data of 1931, to determine what organs or parts of the body have been chiefly affected by the rise in the disease as compared with 1930. The analysis indicates that there was an 8 per cent. increase for cancers of the digestive tract and peritoneum. This group includes the very large number of deaths from cancer of the stomach, liver, gall-bladder and intestines. In the case of cancer of the breast, the increase in deaths was 6.3 per cent.

APPENDIX C

CANCER ORGANIZATION

CANCER ORGANIZATION

In the main report a brief account is given of the effort in cancer control in the countries visited by the Commission. In the following pages is detailed the fine type of organization for this work in Australia.

Australian Cancer Organization

A few years ago a group of public spirited citizens formed a cancer treatment and research committee, appealed for funds and raised £130,000 in Sydney and New South Wales. Representations to the Commonwealth Government resulted in the purchase by that Government of ten grammes of radium and a radium advisor was appointed to see that it was properly used.

Shortly before this the Minister of Health appointed a cancer advisory committee of prominent medical men and scientists to advise on the cancer movement in Australia, and local efforts were encouraged by grants to each research and treatment fund as it was raised in New South Wales, Queensland, South and West Australia. The Commonwealth Government gave grants of £5,000, while in each instance the separate State Governments gave to their own funds a like contribution. So far (1930) Tasmania and Victoria have not fallen in line but have the subject under consideration.

Radium Centres

The national organization has been largely built up around the Commonwealth purchase of radium. It was recognized at the beginning that for the public to receive the maximum benefit from radium treatments it must be administered only by those competent through experience and teaching to give it, and for the further purpose of rendering the radium treatment offered more efficient, the radium should be located at large centres where considerable quantities of radium were available. A centre was established at each of the six capital cities and to accommodate other considerable centres of population, radium centres were established at Townsville, Newcastle, Lancaeston, and Bendigo. Only a limited amount of work is done other than at the large city centres.

In each capital city the centre is established at the main teaching hospital or if no teaching hospital exists, then at the largest public hospital. In Sydney and Adelaide, where each research committee is a committee of the university, the latter has been given charge of the radium. In Brisbane, Melbourne, Perth, Hobart and the minor centres the radium has been placed in charge of the local authority governing the hospital and loaned under a definite agreement providing for safety, instruction, treatment, etc.

The local authorities have, in addition to the radium provided out of local funds, deep X-ray machines. Case sheets are kept on forms provided by the Government.

In every centre a *consulting committee* has been formed of a limited number of physicians, surgeons and specialists which meets at regular intervals and discusses every feature of the service. No one is allowed by the Department of Health to handle radium unless he agrees to give a certain definite minimum of time weekly to this work. It is felt too, that it is better for the patient with a major affection to go to a larger centre.

In some states free passes are given to poor patients to the main centres.

Diagnosis and Research

In the great cities adequate facilities are provided for pathological examinations of tumours; these and usually histological examinations can be obtained free of charge. In Perth, part of the cancer fund is used in provision for a well-equipped pathological laboratory, which will form part of a cancer block in the course of erection.

Some time before the cancer movement originated, the Commonwealth Government had started and carried out the policy of providing and staffing pathological laboratories in many of the smaller centres which were not well equipped with facilities for pathological examinations. These laboratories are now very useful in the cancer movement. The plan is something like the Ontario laboratory system.

Research on a considerable scale is being carried on under the cancer research committee of the University of Sydney and with the help of the Commonwealth Government in Melbourne and Adelaide. At the Commonwealth Serum Laboratories at Melbourne, special investigation is in progress.

Research is encouraged at every cancer centre. In addition to X-rays and radium, diathermy and lead treatment have been tried.

The Department of Health acts as a co-ordinating factor between all the cancer centres and publishes in its journal health articles and items of interest on cancer. Posters and pamphlets are published as part of an education campaign.

A department emanation centre has been established at the University of Melbourne and radium emanation is now in daily use. Another emanation centre is now complete and producing radon at the University of Sydney, a trained physicist being in charge of each plant.

Australian Results of Treatment

Until the end of 1929 over 3,000 cases were treated at the new centres, approximately 2,500 by radium. One of the hospitals in Australia which became a radium centre already possessed deep X-ray apparatus; others were waiting delivery so that in the case of Melbourne, the numbers of patients treated did not include those treated by deep X-ray, but the figures are available for the deep X-ray cases treated at the Royal Prince Alfred Hospital, Sydney. The number of cases treated at each centre is roughly proportioned to the population of each state and about eight per cent. of the 2,500 cases treated were not malignant.

The organization and development of the anti-cancer movement is owing to a large extent to the advice and guidance of Arthur Burroughs, M.D., Director of Irradiation at the London Hospital.

APPENDIX D

X-RAYS AND RADIUM

X-RAYS AND RADIUM

Roentgen or X-rays

The discovery of the important series of radiations known as X-rays or Roentgen rays was made by Roentgen in Wurzburg in November, 1895, while he was experimenting on the passage of electricity through rarefied gases contained in Geissler tubes.

A great deal of exploration in the realm of the discharge of electricity through gases in which the findings were largely of a qualitative character had been carried out by such men as Plucker, Hittorf, Thomson and Crookes, and it was known, among other things, that the character of the discharge depended upon the size and shape of the electrodes, on the potential applied to the electrodes, on the nature and pressure of the gas and on the size and shape of the containing vessel. It was also known that the discharge was of a two-fold character, that the negative charges were shot out from the cathode or negative terminal, and positive charges from the anode or positive terminal, and in particular that when the pressure of the gas was low enough that the radiation proceeding in straight lines from the cathode revealed itself by a fluorescence of the walls of the tube. Moreover, it was shown that this radiation could be bent out of its straight path by a magnet. The movement of the fluorescence when the magnet was presented, together with many other experiments, demonstrated conclusively that the radiation from the cathode consisted of negatively charged particles—now called electrons—moving with high velocity down the tube away from the cathode. Also, by means of effects observed when electric and magnetic forces acted upon the corpuscles, it was shown that the corpuscles had very small and equal mass, and as we now know are constituents of all gases, as indeed of all materials. These cathode rays have only a feeble penetrating power in glass. In 1895, when Roentgen was engaged in an investigation of the discharge of electricity through gases, he found that even if the discharge tubes were covered with black paper, so as to prevent the emission of light, yet another type of radiation was proceeding outward from the anode and the walls of the tube.

This new radiation apparently arose wherever the electrons impinged on solid matter and were thus brought to rest. He detected it by its power of causing certain crystals, such as barium platino-cyanide to fluoresce, and by the fact that it affected photographic plates in the same way as does ordinary light. The radiation penetrated not only the glass walls of the tube, but other substances such as wood, ebonite, flesh, and to a small extent even metals such as lead, which are opaque to ordinary light.

The character of the radiation was also affected by the degree of evacuation of the tube; the higher the voltage between the ends, the more intense and penetrating the radiation emitted. These rays, being of unknown origin, were termed X-rays, although often referred to now, particularly in Germany, as Roentgen rays. The announcement of Roentgen's discovery was made to the Physico-Medical Society of Wurzburg in November, 1895, and was published in the Bericht der Physikalische-medische Gesellschaft of Wurzburg in December 1895, and March, 1896.

The value of Roentgen's discovery, as is very rarely the case in scientific work, was at once perceived and throughout the world the discovery was applied to medical, and in particular, to surgical purposes.

X-rays are emitted whenever matter is bombarded by cathode rays or in other words, the sudden stoppage of swiftly moving electrons by the atoms of matter is accompanied by the generation of X-rays. The essential parts, therefore, of an X-ray generating apparatus are, a source of electrons proceeding from a cathode, a target or anticathode, and a means of applying a potential difference between the cathode and the target which will accelerate the electrons, to the requisite velocity during passage across the intervening space.

There are several types of X-ray tubes at present which fulfil the requirements and which may be classified according to the method by which electrons are produced for the passage of current through the tube, namely: 1. By the ionization of the residual gas in the tube. 2. By the emission of electrons from a heated filament cathode. The tubes may be made purely of glass or of glass and metal.

When a potential is applied across the anode—known as the target—and the cathode, there is a tendency for electrons to be emitted owing to the electric field applied between the electrodes. The electrons are accelerated by the electric field and pass from cathode to anode and by their impact on the latter, the energy of electronic motion is transformed into energy of electromagnetic radiation, a part of which appears as radiation corresponding to that region of the spectrum that we term X-rays, although a far greater proportion appears as heat and light radiation. So many factors are involved in the operation of gas-containing tubes that they may be erratic in their operation, but in the hands of skilled radiologists and radiographers they can give highly satisfactory results. In the hands of the unskilled, however, the great fluctuations in the intensity and wave length of the X-radiation emitted cause it to be regarded with disfavour.

In the electron type of tube there is insufficient gas present to allow the passage of the current. Electrons are emitted from a heated filament, which serves as the cathode for the discharge. The advantage of a tube which is dependent for conduction only upon the emission of electrons from a filament is that the current through the tube is dependent only upon the temperature of the filament and the cathode ray stream is much more uniform and steady with respect to quantity and velocity than in the case of gas-containing tubes. It is possible, too, when sufficiently high voltages are used, to make the current and the voltage independent variables. The electron type of tube is associated in this country with the name of Coolidge, who introduced it in 1913. As an example of other types of electron tubes, there is the Lillienfeld tube which had been produced previously in Germany. In it the independent control of current and voltage was even greater than in the Coolidge tube. The tube is similar to the Coolidge tube, but it has an auxiliary anode whereby a more uniform cathode ray stream is obtainable. By maintaining a constant potential across the cathode filament and the anode or target, the wave length of the radiation is maintained constant, and as a result the radiation is more homogeneous.

One of the most marked revolutions in radiology during the past few years has been the rapid adoption of X-ray tubes carrying their own metallic protection against the emission of undesired X-radiations. Such tubes have been named "metal tubes"., somewhat of a misnomer, since for purposes of insulation they must necessarily be partly of glass or other insulator.

One of the needs of the present time is, however, the production of tubes that will operate satisfactorily at voltages above 220 kilovolts. Although tubes have been operated above this value they are not yet highly practical, but they will extend the value of radiology with respect to medical purposes. If tubes could be produced to operate at 1,000 kilovolts it should be possible to obtain radiation analogous to the gamma radiation from radium and this would allow important therapeutical extensions, particularly since there is some reason to believe that the most advantageous radiation for cancer treatment actually lies above that of the present day high voltage X-rays, but well below that of the gamma radiation from radium, and, moreover, we are able at present in a practical way to modify the latter. X-ray tubes have already been operated in the United States of America and in Germany with voltages of 750 kilovolts, but the equipment is not yet suitable for use by the practising radiologist.

As an illustration of this, we have the work of Failla at the Memorial Hospital, New York, where he has been using the cascade X-ray tube developed by Coolidge of the General Electric Company. This tube is designed for a maximum voltage of 900,000 volts and has been run at 850,000 volts for short intervals. It can be operated for long periods at 700,000 volts and 5 milliamperes. The radiation output of the tube has been determined as to quality and intensity at different voltages. At 700,000 volts and five milliamperes the radiation emission through a filter of five cms. of copper is equivalent to a gamma ray emission from approximately 500 grammes of radium. With such apparatus the question of personnel and protection becomes of supreme importance.

The Production of High Voltages for the Excitation of X-ray Tubes

In the earliest period of X-ray history the source of high tension energy was either a Wimshurst machine or an induction coil. Owing to the vagaries of the former, the coil soon dominated the practical field. For a long period the induction coil was practically the only method of exciting the X-ray tube. At present the alternating current transformer is almost universally used. With its introduction the output of X-rays available was considerably increased and the scope of radiographic work materially extended. It is, moreover, capable of much greater and more regular output. For the satisfactory performance of an X-ray rube, the current through it must be uni-directional. As a rule, therefore, the high tension transformer alone is not sufficient for a complete high voltage X-ray outfit. Some device must be added to ensure that the current through the tube flows always in the same direction. For this purpose one of two types of rectifiers is generally used; either the mechanical or valve rectifier. The objection to the mechanical rectifier is the noise of the rotating parts and the production of fumes due to spark discharge. Within the last few years, improvements in thermionic valves have resulted in the use of valve tubes for rectification purposes in X-ray work. This type of rectifier has the advantage of noiselessness and for this reason has been widely adopted. Each type of rectifier has its advantages and disadvantages both from a theoretical and practical standpoint. The greatest advance in X-ray apparatus has been in the direction of producing better and more powerful apparatus to excite the X-ray tube, and in this respect the requirements have been adequately met up to the present.

The Physical Nature of X-rays

The nature of X-rays was for a long time a baffling secret. It was known that the cathode rays which produce them are corpuscular, that is, they consist of electrons, units of negative electricity whose charge and mass could be accurately measured. As X-rays have some properties in common with cathode rays, it was thought for a time that X-rays were also corpuscular, but it was gradually recognized that they are a wave motion in the ether like visible light and differing fundamentally only in wave length. They are similar to wireless waves, heat rays, visible light, ultra violet light and gamma rays from radium; that is, they are electric wave motions or a series of electrical disturbances following each other at very short intervals of space and time. Associated with these electric waves are magnetic waves, both sets being perpendicular to the direction of propagation of the system; that is, they are electro-magnetic in their nature. This was confirmed by Friedrich and Knipping and latterly the Braggs, who, acting on the suggestion of Laue, used the regularly arranged planes of atoms in a crystal as a natural grating to produce the same phenomena with X-rays that Fresnel, with other methods, had produced with visible light.

This discovery assigned to X-rays their place in the now complete electromagnetic spectrum which Maxwell had foretold and which consists of a continuous chain of ether waves of every conceivable wave length. These wave lengths stretch from the cosmic-rays, whose wave lengths are excessively small, through gamma rays, X-rays, ultra-violet rays, visible rays, heat rays or infra-red rays to wireless waves of wave lengths ranging up to a mile or so in length. As an illustration of the range of wave lengths, it may be pointed out that the wave lengths of the spectrum of visible light range from about 3.5 to 7.0 ten thousandths of a millimetre and the X-ray spectrum from about .1 to 2 ten millionths of a millimetre in length.

X-ray Spectra

There are two main types of optical spectra (*a*) continuous, containing a wide range of wave lengths without intermission and emitted by incandescent solids, (*b*) line spectra consisting of isolated wave lengths characteristic of the emitting substance when it is in the gaseous state. The fundamental way of dealing with X-ray spectra must be the same as that adopted for ordinary light, that is, they must be sorted out into their wave lengths and it must be found out how much there is of each. It has been found that X-ray spectra may be divided into the same two categories, both the continuous and the characteristic line spectra being observed, while in general the spectrum of the radiation emitted from a tube operated under deep therapy conditions consists of a superposition of the two types. By choosing conditions correctly it is possible to obtain either type free from the other. With regard to the continuous spectrum it is known that (1) an X-ray tube emits a wide range of wave lengths at the same time, that is, the radiation is very heterogeneous, (2) the higher the voltage the greater the relative amount of short wave length radiation, although by raising the voltage the actual emission of long waves is also increased, the short wave emission being, however, increased to a greater extent. (3) There is a minimum wave length to the radiation emitted at any given voltage. From an X-ray tube we have also X-ray spectra consisting of lines whose wave lengths are characteristic of the element producing them. We may now sum up the radiation emitted from an X-ray tube as a whole by stating that below a critical voltage the whole of the radiation is continuous, but under the usual therapy conditions the voltage is always sufficient to cause also the emission of the characteristic types of radiation. These appear in addition to the other radiation and cause apparently no decrease in intensity of the former. Their wave lengths depend upon the metal used as the target in the tube, the heavier the element the more penetrating the radiation. Thus, an X-ray tube emits a wide range of waves at one time, the wave lengths escaping from the tube being limited on the short wave side by the maximum voltage applied, and on the long wave side for unfiltered radiation, by the transmission through the glass walls of the tube. Thus, the spectrum is that of a very heterogeneous collection of rays. To define any electromagnetic radiation it is necessary to specify the wave length or quality of the radiation and the intensity of the radiation. Knowing the latter we can determine what we term "dosage" since this is the product of intensity and time of application.

If we wish to profit by the experience of others or repeat results obtained previously, or to communicate them to others, it is essential that quality and intensity of the X-ray radiation producing certain effects be measured and described accurately so that the same conditions may be repeated. The effects produced by X-rays, either in a photographic film or in the human body, depend upon the amount of radiation that has been absorbed in either case. This amount of absorbed radiation is determined by: (1) the intensity of the rays. (Intensity corresponds to what we call "brightness" when speaking of visible light). (2) the time for which the photographic film or the human body is exposed to the radiation of any given intensity. (3) the wave length or penetrating power of the X-ray beam. These are the three main factors, but as intensity itself depends largely upon voltage and absorption, and scattering depends upon the wave length, the two factors, intensity and wave length, are somewhat interlinked and should be separated.

The Quality of X-rays

There is only one accurate method of the measurement of X-ray quality, namely, by means of the X-ray spectometer. Laue, Friedrich and Knipping in 1912, were the first to measure definitely the wave length of X-rays by their diffraction through crystals. Their method was dependent upon complex considerations and in the following year Bragg originated a modification of this method. X-rays, like light waves, may be reflected from a crystalline surface, but unlike light waves the reflection occurs at atomic planes within the crystal and the reflected radiation at the superficial atoms is negligible. The equation upon which the measurement of wave lengths is based is:

$$n\lambda = 2d \sin \theta$$

where n is the order of the spectrum, d is the distance between the atomic planes and θ is the angle between the direction of incident radiation and the surface of the crystal.

Of the many forms of spectometers which have been devised, one of two is mostly used in medical radiology. Both of these are dependent on Bragg's method. That of Seeman depends upon photographic measurements and that of Staunig upon visual perception by means of fluorescence.

To obtain still further and more precise information, a photometric investigation of the lines should be made. This method, however, while it should lead to considerable improvement in precision of measurement, is not found in general practice.

Usually one of the following methods is used: (1) The indirect value of the absorption is determined by the photographic or fluorescent effects after the passage of the rays through various graduated thicknesses of metal. These instruments have considerable practical value but they suffer from inaccuracies, due to selective absorption of the metals of the scales and the metallic salts of the photographic emulsion. Further, the time of exposure affects the results.

(2) Measurement of equivalent spark gap. The method is greatly used and depends upon the fact that the wave-length emitted by the tube is dependent upon the applied voltage, and this may be approximately measured by the equivalent spark gap. So many factors enter into this method that the results can only be regarded as roughly approximate.

(3) Perhaps the best practical method of measuring the average quality of the penetration of X-rays is by means of measurements of intensity before and after their passage through a given depth of absorbent material such as water or wax. Since the amount of absorption which corresponds to the decrease of intensity increases as the penetration decreases, the diminution of intensity is a measure of the average quality of the radiation. This method is perhaps quite practical, but again it suffers from inaccuracies in the measurement of intensity and sources of error are due to variations in scattering and of absorption with wave length.

Measurement of Intensity of X-rays

Ever since Roentgen rays were discovered there has been dissatisfaction with the methods that have been employed for measuring their intensity. The radiation intensity is a measure of quantity and may be defined as that radiation energy which strikes in one second upon a surface of 1. sq. cm. placed perpendicular to the direction of the ray. An absolute measurement of intensity for X-rays is very difficult and depends upon the very minute increase in temperature resulting in the complete absorption of the rays in an irradiated object. The method is, perhaps, only suitable to the physical laboratory and not for medical purposes unless improvements in micro-thermocouples render it practicable in the near future.

Chemical or structural changes have been greatly used in the past and various intensitometers based upon the accompanying changes in colour have been used. Errors, however, arise due to the colormetric method of estimation and selective absorption of the waves of X-rays by the material of the intensitometer. Another type of intensitometer is based upon the effect of X-rays on photographic plates. This is also subject to similar error, but owing to the intense effect on the plates the errors in general are less marked.

A common method is that dependent upon the change in colour of barium platino-cyanide. But here, besides errors in colour matching, heat and selective absorption cause errors and the method, while of use in therapy with small dosage, is of little use in deep therapy, where large doses calling for special skill have been applied. Fortunately, the errors are all on the side of under-dosage and this renders the method safe in the hands of those unskilled in therapeutic work.

The change in resistance of selenium when exposed to X-rays has been greatly used due to its convenience and in spite of inaccuracies due to selective absorption and fatigue. The method, while not rigidly accurate, is superior to the pastille method, and the quality as well as the intensity may be ascertained rapidly by comparative measurements of intensity above and below a given depth of water.

The actual reddening of the skin, called erythema reaction, is often used as a biological standard of dosage. This is unfortunate, since owing to variation in skin manifestations, the reaction of the human skin cannot be used as a standard for comparison of physical factors. The reaction, moreover, of pathological tissues to radiation cannot be determined on the basis of the reaction of normal skin.

If conclusions are to be drawn as to the biological effects of radiation, measurements of the applied intensity and quality must be made accurately as possible in terms of physical units, even when an auxiliary biological method is also used. Moreover, it would provide a common ground for the intelligent recording of methods and results. It was this belief and the dissatisfaction with old methods that led to the method of measurement which is at present recognized as the most satisfactory.

The physical unit of radiation intensity as based on the property of X-rays known as the ionization of gases and the resultant electrical effect of this ionization is measured as a current in terms of the universally accepted electrostatic unit. The apparatus is now called "the air ionization chamber" and the current produced is measured by means of a galvanometer or electrometer or by means of an insensitive instrument combined with a valve amplifier. Experimental researches, using the ionization method of measuring intensity, proved so satisfactory that, at the Second International Congress of Radiology at Stockholm in 1928, the measurement of air ionization was accepted as the basis of international dosage measurement. It was agreed that the unit of X-ray dose should be called "the Roentgen" and be designated by the small letter r. The definition for this unit is:

> "The International unit is the quantity of X radiation which, when the secondary electrons are fully utilized and the wall effect of the chamber is avoided, produces in one cubic centimeter of atmospheric air at O° C. and 76 cm. of mercury pressure, such a degree of conductivity that one electrostatic unit of charge is measured at saturation current."

Since then, many investigators have studied the problem of devising equipment which will unambiguously measure an X-ray beam according to the above definition and many important features overlooked by earlier investigators have been indicated. At the same time, there has been set up in the National Laboratories of Great Britain, Germany and the United States of America, open-air ionization chambers in terms of which dosage meters used in the particular country may be calibrated by comparison with the standard. Other countries, not having centralized standardization laboratories, have designated private and state institutions as custodians of their standard.

Again, at the International Congress of Radiology held in Paris in July, 1931, it was agreed that the international unit of quantity of radiation that had been formally adopted at Stockholm had, in general, proved satisfactory. Demands for a unit of intensity were met by a new recommendation to express intensity in r per minute or r per second. In order to further study of the method and technique and also to realize experimentally the specification of the r unit, a committee was appointed to co-operate with the several National Laboratories. The international X-ray Unit Committee, which dealt with all these matters, was constituted of a physicist and a physician from each of twenty different countries.

RADIUM

Closely following upon Roentgen's discovery of X-rays, M. Henri Becquerel at Paris, investigating the field of phosphorescent light, discovered in 1896 that the element uranium emitted rays capable of traversing material objects.

Thereupon, M. and Madame Curie proceeded to analyze the characteristics of uranium, and they found that the rays emitted were due, not to phosphorescent action, but to the disintegration of the uranium atom and that, in the process of disintegration, uranium produced a new element which Madame Curie separated and called radium.

The discovery was presented to the world in a joint paper by M. and Madame Curie and G. Bémont to the Academy of Sciences at Paris in 1898.

The subject of radio-activity was investigated and the theory of ionization of gases developed in 1899 by Wilson, Thomson, Rutherford and Townsend. In 1900 the three types of rays emitted by radium were separated and studied. In 1902 Rutherford and Soddy put forward their well-known atomic disintegration theory. According to this theory the atoms of a radio-active substance are undergoing a process of spontaneous disintegration, giving rise to the formation of a new atom, distinct in physical and chemical properties, from its parent.

Nature of Radium

Radium is a rare radio-active chemical element (Ra) belonging to the group of alkali earth metals which comprises the elements barium, strontium, calcium and magnesium. As a disintegration product of uranium, radium is never found in a natural state apart from its parent element. They always occur together geologically in a definite ratio of one part of radium to each 3,400,000 parts of uranium. Uranium has been found to exist in a number of different ores, such as pitchblende, carnotite and uraninite.

The atomic weight of radium is 226. Its chemical behaviour is identical with that of barium, forming a series of analogous salts (bromide, fluoride, sulphate, etc.). In its metallic state radium is a pure white metal but it is never used in that form because it changes quickly when exposed to air and reacts with water, decomposing it into hydrogen and oxygen with the production of radium hydroxide; hence, it is always prepared and used for therapeutic purposes in the form of radium salts. The processes involved in the extraction and purification of radium are both intricate and time-consuming and therefore costly. Usually, the final product in the purification is radium bromide.

Radio-activity

There are a number of radio-active elements, of which the most important are uranium, radium, polonium, actinium, thorium and mesothorium. Of these, radium is by far the most important because it disintegrates at a convenient rate, permitting the use of its radiation over a very long period of time, whereas all other radio-active substances disintegrate so much faster or slower that they are therefore correspondingly less valuable.

Radio-activity may be defined as the spontaneous emission from the nucleus of a complex atom of helium nuclei (alpha rays) or single negative electrons and gamma rays with the production of new forms of chemical matter. It is the outward evidence of spontaneous disintegration of the radio-active substance or transmutation of the element, atom by atom, into other substances. Until the discovery of radio-activity such atomic changes had not actually been observed. It is now well established that the process of disintegration is a dynamical one and always goes on at a perfectly definite and unalterable rate.

In the case of radium one per cent. of its mass disintegrates each twenty-five years, therefore the radio-activity of a pure radium preparation continues uninterruptedly for an average life period of 2,500 years—one-half of its atoms disintegrating in a period of 1,690 years. Lead of atomic weight, 206, is a final end product, there being at least seven intermediate bodies intervening between radium and lead. They are radium emanation, radium A, radium B, radium C, radium D, radium E and radium F. Each of the above substances is formed from the one preceding it, after the manner of a cascade, with an outburst of energy evidenced by the emission of rays. The state of matter of the disintegration products is as follows: radium is a solid, radium emanation is a gas, radium A, radium B and radium C are solids.

Radium Rays

A purified radium preparation enclosed in a container will have produced within a period of thirty days of its enclosure an equilibrium quantity of emanation, radium A, B, and C, which will remain unvariable. Such a preparation simultaneously emits three distinct types of rays, designated by the terms alpha, beta, and gamma. As these rays differ from each other in character and in the rate at which they are discharged they produce different effects and are of different values therapeutically. Beta particles and gamma rays are not given off from the radium atom until disintegration has proceeded to radium C. Since beta particles and gamma rays are the ones used in radiation therapy it is really radium C, and not radium, that produces the therapeutic rays.

Alpha rays are positively charged particles; they are helium nuclei shot out from the nucleus of the parent atom at approximately 12,000 to 18,000 miles per second. These rays are completely absorbed by three inches of ordinary air or by excessively thin screens of any material such as a sheet of paper; they are consequently practically useless for extensive therapeutic application.

Beta rays are single negative electrons shot out from the nucleus of the parent atom at a velocity varying from 60,000 to 180,000 miles per second. Hard beta rays are one-half absorbed in one millimetre of soft tissue; one millimetre of lead or four millimetres of aluminium will completely absorb them.

Gamma rays are unlike the alpha and beta rays inasmuch as the latter are corpuscles or material particles while the former are electro-magnetic disturbances akin to X-rays, but of considerably shorter wave lengths. There are radioactive substances which emit gamma rays which have the same wave length as the X-rays actuated under high voltage, and in this case the two radiations cannot be distinguished one from the other. Gamma rays travel at the rate of 186,000 miles per second and penetrate six to eight inches of soft tissue; they are almost completely absorbed by five and one-half inches of lead. Owing to their great penetrating power gamma rays are generally recognized as the type of most therapeutic value. The beta rays as a class are approximately one hundred times more penetrating than the alpha and the gamma rays one hundred times more penetrating than the beta. According to their power of penetration they are called soft and hard beta and gamma rays. By methods analogous to those initiated by Laue in his investigations upon the wave lengths of X-rays, Rutherford and Andrade have measured the wave lengths of the more penetrating gamma rays emitted by radium B and radium C. Previous observation had shown that this radiation was heterogeneous, and the gamma rays which we speak of as being very penetrating consist of rays varying considerably in their wave lengths.

Each of these types of rays when passing through or striking material bodies set up secondary radiation; thus the alpha rays by concussion produce very feeble secondary beta radiation sometimes termed delta rays; the beta rays—secondary gamma radiation; the gamma rays—secondary beta radiation; these secondary beta rays are of therapeutic value when produced within the tissues.

Quantitative measurements and standards. The unit of measurement for radium is the milligramme—one gramme equals one thousand milligrammes, also one gramme equals 15,432 grains, and 28.35 grammes equals one ounce avoirdupois. The quantitative value of a radium preparation is guaged by its degree of radio-active intensity. This radio-activity is measured by means of the electroscope in comparison with official standard tubes of known quantity. The primary standard is a glass tube containing 21.99 milligrammes of pure radium chloride prepared by Madame Curie which was adopted by the International Radium Standards Committee in March 1912, as the International Radium Standard. It is now kept at the Bureau Internationale des Poids et Mesures at Sèvres and is not used for practical work. Standard tubes certified by the International Committee, after comparison with the International Standard, are held in the national standardizing laboratories of the various countries. All radium preparations are now sold on the basis of a certificate of measurement issued by one of these institutions after comparison with a certified standard tube. In addition to the certificate of measurement, a guarantee of its purity of preparation and its freedom from mesothorium or other radio-active substance is given. In a reliable radium preparation, free from mesothorium, there may be a small degree of impurity due to barium; since measurements are made on the basis of radium element content the presence of a small amount of barium has no influence on the value of the preparation. If, however, there is an appreciable amount of barium it will absorb some of the radiation and measurements will indicate a smaller quantity of radium element than is actually present. On the other hand, if the impurity consists of mesothorium the value of the preparation is much affected. Thorium and its derivative mesothorium, although similarly radio-active, have a much shorter life than radium and are therefore of much less value. Mesothorium gives off beta and gamma rays, but it has a half life period of only five and one-half years while that of radium is 1,690 years.

Radium Emanation

As previously stated, the radio-activity of radium is due to the spontaneous disintegration of the radium atom. Just as radium is a disintegration product of uranium, so radium in its process of decay, forms a series of subsidiary substances, the first of which is known as radium emanation or radon. Radium emanation is a gas possessing the property of radio-activity. From the time of sealing up emanation is being constantly formed in the radium salt in proportion to the weight of radium present. Half the emanation produced during each unit of time is disintegrated after 3.85 days. The weight of radium remains exactly the same and there being a definite ratio between the quantities of emanation destroyed and produced, there comes a time when the decay balances the production and the quantity of emanation remains constant. This point is reached about thirty days after the sealing of the preparation and the radium is then said to be in equilibrium with its disintegration products. Emanation is supplied for therapeutic purposes in much the same way as radium salt, but as a comparatively large amount of radium element (one gramme or more) is needed to produce emanation in quantity, this method of treatment is not usually employed except by large institutions or private practitioners able to obtain a supply of emanation therefrom. The emanation is obtained from a solution of radium salt (usually radium bromide), and is drawn off into glass tubes by means of special apparatus. Emanation is a comparatively short-lived gas; its growth and decay proceed at a precisely even rate, both processes being completed in a cycle of thirty days. During the first twenty-four hours after purification and separation the emanation loses practically sixteen per cent. of its radio-activity; in 3.85 days it loses one-half, and in 8.8 days four-fifths and so on. Standard tables for the decay and growth of radium emanation are available. As the rate of decay and growth are constant and invariable, the exact strength of any tube of emanation may at any time during its active period be instantly calculated from tables without the necessity of electroscopic measurement, provided both original strength and time of separation are known.

Unit of Measurement

The millicurie is the practical unit of emanation measurement, that is, one-thousandth part of a curie. A curie is the quantity of emanation in equilibrium with one gramme of radium element, namely, .6 cubic millimetres at 0 degrees C and a pressure of 760 mm. of mercury. One millicurie of emanation possesses, therefore, radio-active intensity equivalent to that of one milligramme of radium element. The millicurie is subdivided into the microcurie, which is the thousandth part of the millicurie and the millimicrocurie the thousandth part of the microcurie. One gramme of radium element in solution should generate daily about 164 millicuries of emanation of which, after allowing for losses and disintegration, 150 should be purified and collected. This daily output is constant and invariable from the time the radium reaches the point of equilibrium with its decay products.

Advantages and Disadvantages of the Use of Radon

Advantages: (1) Security. There is little danger of loss through accident, fire or theft as the radium is kept in a safe and the emanation drawn therefrom by means of a tube passing through the safe wall. (2) Capillary glass tubes containing the emanation have small monetary value.

Disadvantages. (1) The efficient collection and purification of emanation necessitate an intimate knowledge of radium physics and the emanation apparatus cannot be successfully worked except by a skilled technician. (2) Since modern technique may call for lengthy applications the rapid disintegration of the emanation offers a serious objection to its use inasmuch as the resulting radiation is not constant in intensity.

Radium Salts.

Radium for therapeutic application is generally used in the form of radium bromide or radium sulphate. Radium bromide is recommended only when a soluble salt is required (for use in an emanation apparatus, for instance). For enclosure in containers sulphate is usually used for the following reasons: (*a*) its high radium element content, which means the reduction of the containers to a minimum size. (*b*) its insolubility which offers a higher degree of security against loss and enhances the chances of recovery if it accidentally becomes mixed with other substances. Unfortunately, in past years the term radium was often used to mean one or other of the salts; as the salts vary in radium element content this practice detracted from the value of early work of investigation because it was often impossible to know what form of radium preparation and, therefore, what quantity of element had been employed. Properly, the term radium has never meant anything else but the element itself, and it is in this accepted sense that the word radium should be used. It is the actual radium element content which determines the strength and value of a preparation of radium salts; it is, therefore, a matter of first importance that such element content should be known. For instance, instead of saying fifty milligrammes of hydrous radium bromide it saves confusion to say 26.79 milligrammes of radium element in the form of hydrous radium bromide. The radium element content per milligramme of radium may be readily ascertained by reference to a table of equivalent values.

Active Deposits

Alpha, beta and gamma rays are emitted by radium A, B, C, and D, which are the active deposits of emanation. It is possible to collect these deposits upon a sheet of metal and use them in place of radium or emanation, but it is considered impracticable because the life of such deposits is even shorter than that of emanation.

Dosage, Present Methods

There are several methods used of calculating dosage. A large majority of radiologists in the United States express the dose of radium or radium emanation as a certain number of milligramme hours or millicurie hours obtained by multiplying the quantity of radium or radium emanation by the time. A milligramme hour is the amount of radiation given off by one milligramme of radium element during one hour. If a definite number of milligramme hours is to be administered in a given case the use of a small quantity of the element must prolong the time of application, while the use of a large quantity will necessitate a much shorter duration of the exposure.

One millicurie is the quantity of emanation in equilibrium with one milligramme of element. It is evident that a preparation containing ten milligrammes of radium element applied during one hour will provide an intensity of ten millicurie hours corresponding to ten milligramme hours.

In Europe, radiologists often employ the term "millicuries destroyed." The reason for this terminology is that radium emanation has a large decay value, for instance, one millicurie of radium emanation at the end of twenty-four hours represents the strength of .8416 milligrammes of radium, so that in comparing a dosage a certain number of millcuries of radium emanation as against the same number of milligrammes of radium one must use an emanation decay chart based on known hourly decay periods of radium emanation. One must take into consideration the intensity at the beginning of a treatment and use a chart to find out the dosage.

When stating the quantity of millicuries destroyed this term indicates the quantity of emanation which is produced and destroyed in the unit of time (one hour) while, when stating the intensity in "millicurie hours," a constant quantity of emanation in equilibrium with the radium is indicated.

One of the most interesting problems associated with the physics of radium therapy is the distribution of radiation intensity around a radio-active source either in air or some denser medium such as water, wax or human tissues. We are almost ignorant of the intensity of a radiation at a given point in a growth into which the commonly used type of needle has been buried, and precise data are urgently required if the methods are to be rescued from empiricism. The methods already described for estimating dosages in milligramme hours or millicuries destroyed are not satisfactory. The state of affairs appears to be analogous to the position with respect to X-ray dosage a few years ago, when the dose was defined in terms of conditions, such as kilovolts, milliamperes, filters, etc., circumstances relating to the source and not to the energy absorbed per cc. of tissue. The gamma ray problem is almost exactly that of the X-ray problem; it is more complex because of our smaller knowledge of the radiations concerned and the extremely rapid variation of intensity from place to place in the tissues. The ideal method of measuring dose should enable us to express the energy absorbed per cc. at any point throughout the mass irradiated. It should, moreover, be intimately related to the fundamental C. G. S. system of units and should not depend on the conditions of an experimental set-up. Two units might be suggested. (1) The fundamental C. G. S. unit of dose, namely, erg. per cc. of tissue. (2) An ionization unit, preferably the r unit as now used for X-ray dosage. It might appear that the first is preferable but there are difficulties in constructing apparatus to measure directly the small amounts of energy involved. It would seem advisable to choose an ionization unit, rather than use a derived one obtained by multiplication of an ionization current by one or more known factors. The r unit adopted for international use has now established itself in X-ray practice and it would be a very great convenience if X-ray and gamma ray doses could be expressed in the same unit, enabling us to compare the therapeutic effects of the same dose of different wave-length radiations.

This advantage is likely to gain weight with time since modern developments of both radium and X-ray therapeutic technique are tending to make the two methods of treatment more and more essentially one; from the radium side by the increasing use of external radiation as opposed to interstitial radiation, while technical progress in the X-ray field is placing at our disposal apparatus capable of the production of radiations which we may legitimately call artificial gamma rays.

X-ray and Radium Protection

The pathological effects of X-rays upon operators and patients were first noticed in 1896. But it was not until 1915 that recommendations for the greater protection of X-ray and radium workers were drawn up by the Roentgen Society of Great Britain. The X-ray Committee of the British War Office issued similar instructions late in the war. About 1921, several casualties from X-rays occurred, followed by a protest from the general public. The result was that the British X-ray and Radium Protection Committee came into being. Their recommendations were presented and formed the basis of the international protective recommendations adopted at the International Congress of Radiology held at Stockholm in 1928. An International Committee was also appointed.

Following this, advisory committees on X-ray and radium protection were set up in various countries to act in an advisory capacity. The International X-ray and Radium Protection Committee met in Paris on the occasion of the Third International Congress of Radiology. They agreed that a number of changes should be made in the light of experience and also by reason of the growth in the power of X-ray equipment. These alterations to the International Protection Recommendations were subsequently endorsed by the Congress.

A complete revised statement of the International Recommendations for X-ray and radium protection is set out below.

INTERNATIONAL RECOMMENDATIONS FOR X-RAY AND RADIUM PROTECTION

(Adopted at the Third International Congress of Radiology, Paris, July 1931)

1. The dangers of over-exposure to X-rays and radium can be avoided by the provision of adequate protection and suitable working conditions. It is the duty of those in charge of X-ray and radium departments to ensure such conditions for their personnel. The known effects to be guarded against are:

(*a*) Injuries to the superficial tissues.

(*b*) Derangements of internal organs and changes in the blood.

2. The following working hours, etc., are recommended for whole-time X-ray and radium workers.

(*a*) Not more than seven working hours a day.

(*b*) Not more than five working days a week; the off-days to be spent as much as possible out-of-doors.

(*c*) Not less than four weeks holidays a year, preferably consecutively.

(*d*) Whole-time workers in hospital X-ray and radium departments should not be called upon for other hospital service.

(*e*) X-ray and particularly Radium workers should be systematically submitted both on entry and subsequently at least twice a year to expert medical, general and blood examinations. These examinations will determine the acceptance, refusal and limitation or termination of such occupation.

3. X-ray departments should not be situated below ground floor level.

4. All rooms, including dark rooms should be provided with windows affording good natural lighting and ready facilities for admitting sunshine and fresh air whenever possible.

5. All rooms should be provided with adequate exhaust ventilation capable of renewing the air of the room not less than 10 times an hour. Air inlets and outlets should be arranged to afford cross-wise ventilation of the room.

6. All rooms should preferably be decorated in light colours.

7. A working temperature of about 18 degrees C. (65 degrees F.) is desirable in X-ray rooms.

8. X-ray rooms should be large enough to permit a convenient layout of the equipment. A minimum floor area of 250 square feet (twenty-five square metres) is recommended for X-ray rooms and 100 square feet (ten square metres) for dark rooms. Ceilings should be not less than eleven feet (three and one-half metres) high.

9. Wherever practicable, the X-ray generating apparatus should be placed in a separate room from the X-ray tube.

10. An X-ray operator should on no account expose himself unnecessarily to a direct beam of X-rays.

11. An operator should place himself as remote as practicable from the X-ray tube.

12. The X-ray tube should be surrounded as completely as possible with protective material of adequate lead equivalent.

13. The following lead equivalents are recommended under average conditions.

	X-rays Generated by Peak Voltages	Minimum Equivalent Thickness of Lead
Not exceeding..................	75 k.v.	1 mm.
" "	100	1.5
" "	125	2
" "	150	2.5
" "	175	3
" "	200	4
" "	250	6
" "	300	9
" "	350	12
" "	400	15

14. In the case of diagnostic work, the operator should be afforded protection from scattered rays by a screen of a minimum lead equivalent of one mm.

15. In the case of X-ray treatment the operator is best stationed completely outside the X-ray room behind a protective wall of a minimum lead equivalent of two mm. This figure should be correspondingly increased if the protective value of the X-ray tube enclosure falls short of the values given in paragraph 13. In such event the remaining walls, floor and ceiling may also be required to provide supplementary protection for adjacent occupants to an extent depending on the circumstances.

16. Screening examinations should be conducted as rapidly as possible with minimum intensities and apertures. Palpation with the hand should be reduced to a minimum.

17. The lead glass of fluorescent screens should have the protective values recommended in paragraph 13.

18. In the case of screening stands the fluorescent screen should, if necessary, be provided with a protective "surround" so that adequate protection against direct radiation is afforded for all positions of the screen and diaphragm.

19. Screening stands and couches should provide adequate arrangements for protecting the operator against scattered radiation from the patient.

20. Inspection windows in screens and walls should have protective lead values equivalent to that of the surrounding screen or wall.

21. Efficient safeguards should be adopted to avoid the omission of a metal filter in X-ray treatment.

22. Protective gloves, which should be suitably lined with fabric or other material, should have a protective value not less than one-third mm. lead throughout both back and front (including fingers and wrist). Protective aprons should have a minimum lead value of one-half mm.

23. The floor-covering of the X-ray room should be of insulating material such as wood, rubber or linoleum.

24. Overhead conductors should be not less than nine feet (three metres) from the floor. They should consist of stout tubing or other coronaless type of conductor. The associated connecting leads should be of coronaless wire kept taut by suitable rheophores.

25. Wherever possible earthed guards, or earthed sheaths, should be provided to shield the more adjacent parts of the high-tension system. The use of X-ray equipment, having the high-tension current completely enclosed in earthed conductors is specially recommended. Unless there are reasons to the contrary, metal parts of the apparatus and room should be efficiently earthed.

26. Special electrical precautions should be taken in rooms where anesthetics are used in conjunction with X-rays.

27. The use of quick-acting double-pole circuit breakers is recommended. Over-powered fuses should not be used. If more than one apparatus is operated from a common generator, suitable overhead multi-way switches should be provided.

28. Some suitable form of kilovoltmeter should be provided to afford a measure of the voltage operating the X-ray tube.

29. The use of non-inflammable X-ray films should be encouraged. In the case of inflammable films suitable precautions should be taken as regards their use and storage. Large stocks should be kept in isolated stores, preferably in a separate building or on the roof.

30. (A) *Radium Salts.* Protection for radium workers is required from the effects of (a) Beta rays upon the hands. (b) Gamma rays upon the internal organs, vascular and reproductive systems.

31. In order to protect the hands from beta rays reliance should be placed in the first place on distance. The radium should be manipulated with long-handled forceps and should be carried from place to place in long-handled boxes, lined on all sides with at least 1 centimetre of lead. All manipulations should be carried out as rapidly as possible.

32. Radium, when not in use, should be stored in a safe as distant as possible from the personnel. It is recommended that radium tubes or applicators be inserted into separate lead blocks in the safe, giving a thickness of protective wall amounting to the value given in the following table:

Maximum Quantity of Radium Element	Thickness of Lead
0.2 gm.	8.5 cm.
0.5	10.0
1.0	11.5
2.0	13
5.0	15
10.0	17

33. A separate room should be provided for the "make-up" of screened tubes and applicators, and this room should only be occupied during such work.

34. In order to protect the body from the penetrating gamma rays during handling of the radium a screen of not less than 2.5 cm. thickness of lead should be used, and proximity to the radium should only occur during actual work and for as short a time as possible.

35. The measurement room should be a separate room and it should preferably contain the radium only during its actual measurement.

36. Nurses and attendants should not remain in the same room as patients undergoing radium treatment with quantities exceeding one-half gm.

37. All unskilled work or work which can be learnt in a short period of time should preferably be carried out by temporary workers, who should be engaged on such work for periods not exceeding six months. This applies especially to nurses and those engaged in "making up" applicators.

38. Discretion should be excercised in transmitting radium salts by post. In the case of small quantities it is recommended that the container should be lined throughout with lead not less than three mm. thick. It is more satisfactory to transport large quantities by hand in a suitably designed carrying case.

39. (B) *Radium Emanation.* In the manipulation of emanation, protection against the beta and gamma rays has likewise to be provided.

40. The handling of emanation should be carried out as far as possible during its relatively inactive state.

41. The escape of emanation should be very carefully guarded against, and the room in which it is prepared should be provided with an exhaust fan.

42. Where emanation is likely to come into direct contact with the fingers thin rubber gloves should be worn to avoid contamination of the hands with active deposits. Otherwise the protective measures recommended for radium salts should be carried out.

43. The pumping room should preferably be contained in a separate building. The room should be provided with a connecting tube from the special room in which the radium is stored in solution. The radium in solution should be heavily screened to protect people working in adjacent rooms. This is preferably done by placing the radium in solution in a lead-lined box, the thickness of the lead recommended being according to the table in paragraph 30.

In conclusion, it may be stated that if the best results are to be obtained, either in the actual application of X-rays and radium or in research work in connexion with them, it can only be attained by the close co-operation of physicists and medical men or by a man thoroughly qualified in both physics and medicine. In this connexion it may be of interest to call attention to the statement of Dr. Louis B. Wilson, Director of the Mayo Foundation for Medical Education and Research, who makes the following statement in his first formal report.

"Encourage every prospective medical student, who, at any stage in his educational career, shows any evidence of capacity for research, to familiarize himself with the fundamental facts of physics, chemistry and biology."

Estimates of Radium Required

The amounts of radium necessary in any country for the adequate treatment of cancer are usually placed at two grammes for each million of population, or for each 1,000 deaths from cancer or two to two and one-half grammes for each twenty-five beds for cancer. If teleradium is used in the form of a bomb a larger quantity up to four or five grammes will be required.

Dr. G. E. Richards, Radiologist of the Toronto General Hospital, Toronto, assuming that an active treatment centre will be set up in each of the medical teaching centres in Ontario, gives the following estimates.

"Until more accurate figures are available as to the exact number of cancer patients occurring in each locality, the following estimate is believed to be one which would fairly meet the needs in the beginning.

Assuming that an active treatment centre would be set up in each of the medical teaching centres of Ontario, it would be necessary to establish:

(1) *An Emanation Plant.* A central emanation plant should be established sufficient to provide for the needs of all three of the active treatment centres. We believe half a gramme of radium in solution would be sufficient for this purpose. One gramme would certainly be adequate. We think, in the beginning, there would be a considerable surplus radon from a gramme in solution, and that there would be difficulty in utilizing fully the output of this quantity. It would be better to begin with half a gramme and add to this if necessary. Since all three of the centres are within easy reach of one another, a single central emanation plant would be sufficient. This, we believe, should be situated in connexion with the active treatment centre in Toronto. Amount of radium required—500 milligrammes.

(2) The active treatment centres in London and Kingston should be equipped with the following quantities of radium:

> (*a*) *Uterine Cases.* A sufficient quantity of radium in the form of radium element to permit of the preparation of any of the applicators in use for the treatment of carcinoma of the uterus, and for this purpose, 150 milligrammes of radium is ample. It should, however, be available in a series of applicators of different shape and size, so as to be elastic. Radium required—150 milligrammes.
>
> (*b*) *Breast Cases.* A supply of radium needles in the form of heavily filtered platinum or platinum and gold should be provided sufficient to treat one breast case per week. This would require sixty needles, a suggestion being twenty-five three-milligramme needles, and thirty-five two milligramme needles. Radium required—145 milligrammes.
>
> (*c*) *Mouth Cases.* In the beginning, it is not probable that these clinics would actually treat one breast case per week, and some of the two-milligramme needles could be used for mouth cases. In addition, there would be required about fifteen milligramme needles. Radium required—15 milligrammes.
>
> (*d*) *Surface Applications.* Radium should be provided sufficient to permit of dealing with any ordinary surface application necessary. This could be done by utilizing the radium provided for cervix cases when it is not in use for that purpose, at least until further experience is gained as to the number of cases coming for treatment. If an additional fifty milligrammes is provided for this purpose it would be adequate. Radium required—50 milligrammes.
>
> (*e*) *Packs.* The fifty milligrammes provided for surface applications, together with the 150 milligrammes for cervix cases would be available for radium packs when it is free, thus giving a total quantity of 200 milligrammes which is a very adequate amount. Thus, in each of these centres, there would be required about 350 milligrammes or a total of 700 milligrammes for these two centres.

(3) *Toronto Centre.* In addition to the radium emanation plant, an additional gramme of radium should be provided in the form of radium element in various applicators, the details of which could be worked out later. In addition to this, the merits of a bomb containing from four to five grammes of radium, should be investigated and a comparison made between the relative effectiveness of such a bomb and of that obtainable from one of the very high-powered deep X-ray therapy units. A five-gramme bomb would cost two hundred and fifty thousand dollars at the outside. This is a question regarding which further information would be necessary. Radium required—one gramme. If a bomb is decided upon—five grammes additional.

Each of the active treatment centres should, in addition, be provided with complete installations, for the administration of deep X-ray therapy. With the exception of the new, very high-powered apparatus, these units cost about ten thousand dollars each. Together with other necessary accessories, fifteen thousand dollars for each centre might be estimated for this item."

SPECIFICATIONS FOR RADIUM

Active Treatment Centres:

Kingston London

Needles of platinum iridium, having a wall thickness of 0.5 mm. containing radium element in individual platinum cells as follows:

25 needles each containing 1 mg. length of needles 27.7 mm.	25 mg.
25 " " " 2 mg. " " 44 mm.	50 mg.
25 " " " 3 mg. " " 60 mm.	75 mg.
5 " " " 10 mg. " " 20 mm.	50 mg.
	200 mg.
(Wall thickness—1 mm. lead)	
20 needles monel metal each containing 10 mg., length 27.5 mm.	200 mg.
Total	400 mg.
Value of radium for the two centres 800 mg. at $55.00	$44,000 00

Value of Containers:

50 needles x 1 mg. at $12 50	$625 00
50 " x 2 mg. at 17 75	877 50
50 " x 3 mg. at 22 75	1,137 50
10 " x 10 mg. at 18 50	185 00
10 " monel metal at 12 50	250 00
	$3,075 00

Toronto

Platinum iridium needles having wall thickness of 0.5 mm. as follows:

25 needles each containing 1 mg. radium	25 mg.
50 " " " 2 mg. "	100 mg.
50 " " " 3 mg. "	150 mg.
5 " " " 10 mg. "	50 mg.
	325 mg.

Platinum iridium needles having wall thickness of 0.8 mm. as follows:

50 needles each containing 2 mg. radium	100 mg.
50 " " " 3 mg. "	150 mg.
	250 mg.
20 monel metal needles each containing 10 mg. (This for use as a pack, or for other similar purpose).	200 mg.
Total, Radium	775 mg.

Value of Containers:

25 needles x 1 mg. at $12 50	$312 50
50 " x 2 mg. at 17 75	877 50
50 " x 3 mg. at 22 75	1,137 50
20 monel metal needles x 10 mg. at 12 50	250 00
10 needles x 10 mg. at 18 50	185 00
	$2,762 50
50 needles x 0.8 mm. wall x 2 mg	$1,137 50
50 " x 0.8 mm. wall x 3 mg	1,250 00
	$2,387 50

(Above prices estimates, accurate prices not available).

Summary of Radium Required:

London, Radium Element	400 mg.
Kingston, " "	400 mg.
Toronto, " "	775 mg.
Toronto, " in Solution	425 mg.
Total	2,000 mg.

In the above estimate the radium element contained in monel metal needles is intended for use in certain types of cases such as making up tubes for treatment of cervical carcinoma in the uterus, and is also intended to be used to make up a pack, thus giving a 200-milligramme pack, which is a very excellent quantity for this purpose. These needles are also suitable for most of the simple surface applications, and in this form may be kept almost constantly in use.

Memorandum

Packing, shipping, insurance and Bureau of Standard's fee extra. These can only be estimated, but they amounted to practically $500.00 on a recent purchase of 500 milligrammes and this might be accepted as a fairly accurate estimate on each quantity of 500 milligrammes.

If, in addition to the above, it is considered desirable to keep a supply of radium in reserve, it would be necessary to purchase an additional 500 milligrammes. This might be made up as follows:

20 monel needles, 10 mg. each	200 mg.
50 needles, platinum iridium, 0.5 mm. wall each containing 2 mg.	100 mg.
25 " " " 0.8 mm. " " " 2 mg.	50 mg.
25 " " " 0.5 mm. " " " 3 mg.	75 mg.
25 " " " 0.8 mm. " " " 3 mg.	75 mg.
	500 mg.

On the other hand it might be considered wiser to defer action of this sort until the entire scheme has been in operation for a year or more, and the needs of the work become more fully known.

(*Richards.*)

VARIETY OF TECHNIQUE

There is no unanimity of opinion as to the best method of application either of radium or X-ray. While the results everywhere were most encouraging, it was apparent that individual operators were using the method to which they were most accustomed and which experience justified. The general plans of using radium in the Canadian, United States and European clinics are as follows:

DIFFERENT METHODS OF TREATMENT WITH RADIUM

Clinic	Dose (mg. el.) Hours	Amount	Time	Time (Intervals)
Kehrer's Clinic (Dresden)	6,000 to 10,000	100 to 150	Not Stated	Three series with 2 to 3 days' intervals.
Radium Institute, Paris (Regaud).............	5,000 to 8,000 (40-60 mc. d)	60	6 days	Continuous.
Cancer Hospital (London)	4,800 to 9,200	240	20 to 30 hours	Sometimes repeated.
Howard Kelly Hospital, Baltimore, U.S.A......	3,000 to 4,400	Up to 1,200	1 to 4 hours	One dose. Repeat if necessary after 2 or 3 months reducing does on 2nd occasion.
Mayo Clinic............	4,000 to 9,000	50	14 hours	Eight to twelve applications at interval of 48 to 72 hours.
Memorial Hospital, New York (Baily & Healy)	2,000 to 5,000	50 uterus 100 vagina	48 hours	Two applications, interval 48 hours.
Radiumhemmet (Heyman & Forseil)............	6,800 to 7,600	105 to 112	22 hours	Three applications: 2nd 7 days after 1st. Third, 21 days after 2nd.
Toronto General Hospital	2,400 to 8,490	60 to 100	24 hours to 6 days	Repeat in 2-3 months, if necessary.

SPECIFICATIONS FOR RADIUM FOR MICHAEL REESE HOSPITAL, CHICAGO, ILLINOIS

24 Platinum-iridium needles, each enclosing end to end three platinum cells that contain 1.6 milligrammes each. Dimensions of needles: 60.0 mm. length, 1.65 mm. external diameter, of 0.4 mm. wall thickness. Dimensions of cells: 16.0 mm. length, 0.8 mm. external diameter, 0.1 mm. wall thickness. Combined wall thickness (needle and cell), 0.5 mm	115.2 mgms.
16 Platinum-iridium needles, each enclosing end to end three platinum cells that contain 1 milligramme each. Dimensions of needles: 44.0 mm. length, 1.65 mm. external diameter, 0.4 mm. wall thickness. Dimensions of cells: 10.0 mm. length, 0.8 mm. external diameter, 0.1 mm. wall thickness. Combined wall thickness (needle and cell), 0.5 mm	48.0 mgms.
16 Platinum-iridium needles, each enclosing end to end two platinum cells that contain 1 milligramme each. Dimensions of needles: 32.0 mm. length, 1.65 mm. external diameter, 0.4 mm. wall thickness. Dimensions of cells: 10.0 mm. length, 0.8 mm. external diameter, 0.1 mm. wall thickness. Combined wall thickness (needle and cell), 0.5 mm	32.0 mgms.
14 Platinum-iridium needles, each enclosing a single platinum cell of 1 milligramme. Dimensions of needles: 22.0 mm. length, 1.65 mm. external diameter, 0.4 mm. wall thickness. Dimensions of cells: 10.0 mm. length, 0.8 mm. external diameter, 0.1 mm. wall thickness. Combined wall thickness (needle and cell), 0.5 mm	14.0 mgms.
	209.2 mgms.

All of the above described platinum-iridium needles are to be made with double eye and trocar point. Our laboratory, if found necessary, is to be allowed to increase length of needles by one or two millimeters to accommodate the double eye.

25 Platinum removable cells of 1 milligramme each. Dimensions of cells: 6.0 mm length, 1.0 mm. external diameter, 0.2 mm. wall thickness	25.0 mgms.

For use with these cells there are to be provided monel sheath needles of 0.3 mm. wall thickness, as follows:

12 needles having a length of 36.0 mm. to enclose four cells each.
10 needles having a length of 30.0 mm. to enclose three cells each.
10 needles having a length of 24.0 mm. to enclose two cells each.
10 needles having a length of 19.0 mm. to enclose one cell each.

All of the sheath needles described above are to have an external diameter of 1.65 mm. and to be made with double eye and removable trocar monel points.

Five Platinum-iridium tubes (bull-dog eye), 16.0 mm. long, 0.8 mm. wall thickness (plug screw-cap and eye), each to be of sufficient bore to hold five of the above-described cells in a bunch.

5 Monel metal needles of 5 milligrammes each. Dimensions: 14.5 mm. length, 1.25 mm. external diameter, 0.25 mm. wall thickness	25.0 mg.

Radium filled directly into needles—no cell. Needles are to be of standard design and to have single eye and conical point.

22 Platinum-iridium tubes (bull-dog eye), having a length of 21.7 mm., external diameter of 2.65 mm., wall thickness of 0.9 mm., each enclosing a single non-removable platinum cell of 5 milligrammes. Dimensions of cells: 16.0 mm. length, 0.8 mm. external diameter, 0.1 mm. wall thickness. Total wall thickness (tube and cell), 1.0 mm	110.0 mg.

The 22 platinum-iridium tubes of the 5 mgm. size are to be engraved with the figure "5."

1 Standard monel metal tube (without eyelet). Dimensions: length, 11.0 mm., external diameter, 2.0 mm., wall thickness, 0.25 mm	25.0 mg.

Radium to be filled directly into tube—no cell.

1 Full strength glazed plaque. Dimensions (glazed surface): 1.0 x 1.0 cm	5.0 mg.
Total	399.2 mg.

(*Cutler.*)

INDEX

A PAGE
Aberdeen........................... 36
Africa, South........................ 132
Aniline dyes......................... 137
Appendix A:
  Statistics of cancer mortality........ 107
Appendix B:
  Industrial or occupational cancer..... 135
Appendix C:
  Cancer organization................ 139
Appendix D:
  X-rays and radium................. 143
Arnott, Dr. D....................... 13
Arpin, Dr. C. N., Dominion Department
  of Health, Antwerp................ 8
Arsenic work........................ 137
Austin, Dr. L. J., President, O.M.A.... 14
Australian cancer mortality............ 122
Australian cancer organization......... 141

B

Balfour, Dr. Donald, Rochester, Minn.. 27
Baltimore, Md....................... 24
Banting, Dr. F. G.................... 91
Bates, Dr. Gordon.................. 15
Belgium........................... 40
Bell, Prof. W. Blair, Liverpool........35, 87
Bergkrankheit...................... 137
Berlin............................. 42
Berven, Dr. Elis, Stockholm........... 45
Bethune, Dr., Hamilton.............. 15
Bigelow, Dr. Geo. H., Boston.........22, 95
Bladder, Cancer of.................. 73
Bloodgood, Dr. Jos. Colt............. 24
Blumenthal, Prof. Dr................ 42
"Bomb"...........................57–58
Bonney, Victor.....................32–76
Boston............................ 22
Boucher, Prof. Errol, Paris............ 8
Bowing, Dr. H. H.................... 26
Brain tumours...................... 74
Breast cancer..................73–82–111
  " " tables.................... 80
Bruce, Dr. Herbert A................ 15
Brussels........................... 41
Buccal cavity, cancer................ 111
Buffalo, N.Y........................ 21
Bulgaria, cancer mortality............ 131
Burrows, Dr. Arthur................. 34
Burrows, A. C., Provincial Geologist.... 58
Burton, Prof. E. F................... 15

C

Cade, Stanford...................... 33
Cairns, Miss, Toronto................ 91
Calvaries, France.................... 39
Campbell, Dr....................... 13
Canada, cancer mortality............. 115
Cancer:
  Age, sex and distribution............ 50
  Bladder.......................... 73
  Breast........................73–111
  Buccal cavity..................... 111
Cancer—*Continued* PAGE
  Discussion of nature and causation of. 50
  Female genital organs.............. 111
  Increase in incidence............... 50
  Incidence in relation to mortality.... 50
  Peritoneum...................... 111
  Mouth, nose and throat............. 73
  Rectum.......................... 73
  Skin............................ 111
  Stomach........................ 111
  Uterus.......................... 73
Cancer education and social service
  organization..................... 93
Cancer mortality in
  Australia....................... 122
  Bulgaria........................ 131
  Canada......................... 115
  Czechslovakia.................... 131
  Denmark....................... 127
  England and Wales................ 118
  Esthonia........................ 131
  Finland......................... 130
  France......................... 131
  Germany....................... 130
  Holland........................ 127
  Hungary........................ 131
  India........................... 131
  Italy........................... 131
  Luxembourg..................... 131
  Norway........................ 129
  Ontario........................ 110
  Portugal....................... 131
  Russia......................... 130
  Scotland....................... 131
  Spain.......................... 131
  Sweden........................ 130
  Switzerland..................... 128
  South Africa.................... 132
  U.S.A.......................... 124
Cancer organization, Appendix C...... 139
Catto, Prof........................ 36
Cervix of the uterus................ 74
  " tables......................75–82
Chapman, Capt. E. J. C............. 31
Chicago.......................... 25
Chimney-sweeps' work.............. 137
Clarkson, Dr. F. A.................. 15
Cody, Hon. H. J., D.D., Chairman of
  Commission.................... 106
Columbia paste..................40–57
Commission, Cancer................. 7
Conclusions....................... 97
Connell, Dr. W. T.................. 106
Cook, Dr......................... 84
Cramer, Dr. H................34–41–84
Cullen, Dr. Thos. S................. 25
Cutler, Dr. Max.................... 25

D

Deadman, Dr...................... 15
Deaths, Cancer.................... 111
  " (tables) by age groups..112–113–114

PAGE

Denmark ... 46
“ cancer mortality ... 127
Desjardins, Dr. A. U ... 26

E

Edinburgh ... 36
Education of the public ... 95
“ “ physician ... 95
Efforts for control of cancer in Canada.. 117
England and Wales, cancer mortality ... 119–120–121
Esthonia, cancer mortality ... 131
Estimates of radium required ... 161
Etherington, Dean ... 12
European countries (investigations in).. 37
Evans, Dr., Aberdeen ... 36
Ewing, Dr. Jas., New York ... 23–87

F

Ferguson, Hon. G. Howard ... 8
Female genital organs ... 111
Finland, cancer mortality ... 130
Ford, Arthur R ... 106
Forssell, Dr. Gösta ... 43–79
France ... 39
“ cancer mortality ... 131
Frankfort ... 43
Fraser, Dr. John ... 77–78
Fulham Road, Cancer Hospital ... 33

G

Garnier, Madame Veuve, France ... 39
Gendreau, Dr. E ... 16
General Conferences ... 17
Germany ... 42
“ cancer mortality ... 130
Geschickter, Dr ... 24
Gillam, Dr. G. J ... 15
Grand Duchy of Luxembourg, cancer mortality ... 131
Great Britain, investigations in ... 29
Guay, J. J., Brussels ... 8
Gye (and Purdy) ... 91

H

Halberst–dter, Prof ... 42
Hamburg ... 43
Handley, W. Sampson ... 32
Harrison, Dr. F. C ... 15
Hartmann, Prof. H ... 83
Heidelberg ... 42
Hendrick, Dr. A. C ... 15
Henry, Dr ... 16
Heyman ... 74
Hicks, Dr. E. S ... 15
Hoffman (Quebec) ... 116
Holfelder, Prof. Dr ... 43
Holland, cancer mortality ... 127
Holthusen, Dr ... 43
Hungary, cancer mortality ... 131

I

India, cancer mortality ... 131
Indian cancer rate (Canada) ... 117
Industrial and occupational cancer (Appendix B) ... 135
Ingram, Mr. W. H., Journalist, Paris... 8
International recommendations for X-ray and radium protection ... 158
Introduction ... 8
Italy, cancer mortality ... 131

J PAGE

Johns, Dr. (Campbell and) ... 13
Jones, Dr. W. A ... 13
Juul, Dr. Jens, Copenhagen ... 46

K

Kangri-burn cancer ... 133
Kelly, Dr. Howard, Baltimore ... 24
Kennaway, Dr., Fulham Road Cancer Hospital, London ... 87
Kingston, conference ... 13
Klotz, Dr. Oskar ... 14
Koch Institute, Berlin ... 35

L

Laborde, Dr. Simone, France ... 40
Langrill, Dr ... 15
Lee, Dr. Burton J., New York ... 23
Liverpool ... 35
Lombard, Dr. H. J ... 22
London, Ontario ... 13
“ England ... 31
“ Hospital, London, England.... 34
Louvain ... 41
Lumsden, Dr. Thos ... 34–87
Luxembourg ... 131

M

Macleod, Prof. J. J., Aberdeen ... 36
McCrae, Dr. Brussels, Ontario ... 13
McCullough, Dr. J. W. S., Chief Inspector of Health, Secretary of Commission ... 7–8
McDonald, Dr. Ellice, Philadelphia ... 23–87–88–90
McLennan, Prof. J. C ... 106
McNeill, Dr. George ... 13
McPhedran, Dr. Harris ... 14
Magat, T ... 34–42–87–90
Maisin, Dr ... 34–41–87–90
Manchester, England ... 35
Marlow, Dr. Frederick W ... 15
Massachusetts, table of cancer deaths... 49
Mayo Clinic, Rochester, Minn ... 27
Members of Commission ... 7
Metropolitan Life Insurance Co ... 138
Middlesex Hospital, London, England.. 35
Miller, Dr. James ... 13
Mineral oil or paraffin, work in ... 137
Mines, Bergkrankheit ... 137
Moir, Dr. Hensall ... 13
Montreal ... 32
Morison, Prof. J. M. Woodburn ... 33
Mortality, cancer in
  Canada ... 116
  England and Wales ... 119
  Ontario ... 110

N

Newman, Sir George, Chief Medical Officer, Whitehall, London, England.. 31
New York ... 23
Norway, cancer mortality ... 129
Nose, cancer ... 73
Noxon, Wm. C., Agent-General for Ontario, London ... 8

O

Ontario, cancer mortality ... 110
Ontario, investigations in ... 11
Order-in-Council ... 7

P PAGE

Paris, France 39
Peritoneum, cancer of 111
Philadelphia 23
Pirie, Dr. A. Howard 15
Porter 76
Portugal, cancer mortality 131
Precancerous conditions 51
Prevalence of cancer 49
Primitive races in Canada 117
Primrose, Dr. Alex 14
Purdy, Dr. (Gye and) 91

Q

Quick, Dr. Douglas, New York 23

R

Radiological Clinic, London 13
Radio-therapy 56–61–65
Radium 11–57
  “ cases—percentages 12
Radium Institute, London, England 32
  “ “ Paris 39
Radium required, estimates of 161
  “ sources of 58
Radiumhemmet 45–56
Recommendations 103
Records, T.G.H 12
Rectum, cancer of 73
Reese, Michael, Hospital 25
Regaud, Prof. Cl 39–40
Research 85
Results of treatment of cancer 71
Richards, Dr. G. E., T.G.H., Toronto 11–15–63–162
Ritchie, Dr., Montreal 15
Robb, Hon. J. M., M.D., Minister of Health 7
Rochester, Minn 26
Roentgen or X-rays 145
Rous sarcoma 87
Roussey, Prof. Gustave 39–40
Routley, Dr. T. C 14
Roy, Hon. Philippe, Paris 8
Russia, cancer mortality 130

S

Sarcoma and lympho-sarcoma 74
Schranen, Willem 41
Scotland, cancer mortality 131
Skin, cancer 111
Slye, Maud 26
Sluys, Dr. Felix, Brussels 41
Smith, Prof. Sidney, Edinburgh 36
Smallman, Lt.-Col. H. B., C.B.E., D.S.O., M.D 31
Social service 12–96
Spain, cancer mortality 130
Specifications for radium 164
Sprague, Otho S., Memorial Institute 25

PAGE

Statistics of cancer mortality 107
  “ “ “ Appendix A 109
Stewart, Capt. F. A., Glasgow 8
Stockholm 44
Stomach, cancer 111
Sullivan, Dr. George M., Boston 22
Surgery 56
Susman, Br. Med. Jl 35–87
Sweden 43–101
  “ cancer mortality 130
Switzerland, cancer mortality 128

T

Tar, pitch, etc., work in 137
Thomson, Dr., Edinburgh 36
Throat, cancer 73
Toronto 13
Toronto General Hospital 11
Treatment of cancer 53
Tumour Clinic, Michael Reese 24
Tumours, tables, five-year cures 81

U

United States, cancer mortality 124
  “ “ investigations in 19
Uterus, cancer of 73

V

Variety of technique 166
Villejuif, France 40

W

Walkey, Dr., Hamilton 15
Wallace, Sir Cuthbert 33
Warburg, Prof. Otto 42–84
Ward, Mr 32
Webster, Dr. Douglas 32
Williams, Dr. Ernest 13
Wilson, Dr. George 14
Windeyer, A. W 32
Wood, Francis Carter 55–91
Work:
  Aniline dyes 137
  Arsenic 137
  Chimney-sweeps 137
  Mineral oil or paraffin 137
  Mines, Bergkrankheit 137
  Tar, pitch, etc 137
  X-rays and radium 137
Wylie, Dr. J 13

X

X-rays 12–56–59
X-rays and radium 137
  “ “ “ Appendix D 143
X-ray therapy 11

Y

Young, Dr. George 14
Young, Dr. H. E., Victoria, B.C 117

ANNUAL REPORTS

OF THE

Department of Highways

ONTARIO

1930 and 1931

PRINTED BY ORDER OF
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SESSIONAL PAPER No. 46, 1932

ONTARIO

TORONTO
Printed and Published by Herbert H. Ball, Printer to the King's Most Excellent Majesty
1932

THE
KING'S HIGHWAY
23
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CONTENTS

PAGE

Ontario and Its Highways, Report of R. M. Smith, Deputy Minister 9–11

Report of Highways Accountant, by W. H. Brown, Accountant 11–13

Map Showing System of King's Highways and Road Numbers 14

Report on King's Highways, by A. A. Smith, Chief Engineer 15–38

Report of Bridges Completed on the King's Highways, by Arthur Sedgwick, Bridge Engineer 39–51

Report on Municipal Roads, by Robt. C. Muir, Chief Engineer of Municipal Roads 52–65

Appendices:

1. Details of Construction, King's Highways, 1930 68–69

2. Details of Construction, King's Highways, 1931 70–71

3. Expenditure on King's Highways, 1930-1931 72–73

4. Expenditure on Provincial Suburban Area, 1930-1931 74

Expenditure on King's Highway Connecting Links, 1930-1931 75

5. Schedule of Assumptions and Reversions, 1930-1931 76–78

6. Growth of County Road Expenditure 79

7. County Road Mileage and Expenditure to End of 1931 80

8. Statement of Work and Expenditure on County Roads 82–83

9. Schedule of Maintenance and Repair on County Roads, 1930 84–85

10. Summary of Expenditure on Township Roads to 1930 86–87

Graphic Chart Showing Traffic on the King's Highway, 1930 88

Graphic Chart Showing Traffic on the King's Highway, 1931 89

11. King's Highway Summer and Fall Traffic Census, 1930-1931 90–159

Traffic Census on Bridges in Niagara District 160–164

Civic Holiday Traffic Census 165–167

Labour Day Traffic Census 168–170

Winter Traffic Census 171–177

12. County Road Traffic Census, 1930-1931 178–217

Report of Motor Vehicles Branch, 1930, by J. P. Bickell, Registrar 219–230

Summary of Motor Vehicle Accidents, 1930 231–235

Report of Motor Vehicles Branch, 1931, by J. P. Bickell, Registrar 236–251

Report of Financial Responsibility, by J. P. Bickell 252–254

Report and Summary of Motor Vehicle Accidents, 1931 255–276

TO THE RIGHT HONOURABLE SIR WILLIAM MULOCK, K.C.M.G., P.C., C.J.O.,
Administrator of the Government of the Province of Ontario

MAY IT PLEASE YOUR HONOUR:

I herewith beg to present for your consideration the Report of the Department of Highways, relating to Highway Improvement in the Province of Ontario during the years 1930 and 1931.

Respectfully submitted,

L. MACAULAY,
Minister of Highways.

Department of Highways,
Toronto, October 24th, 1932.

To The Honourable Leopold Macaulay,
Minister of Highways, Ontario.

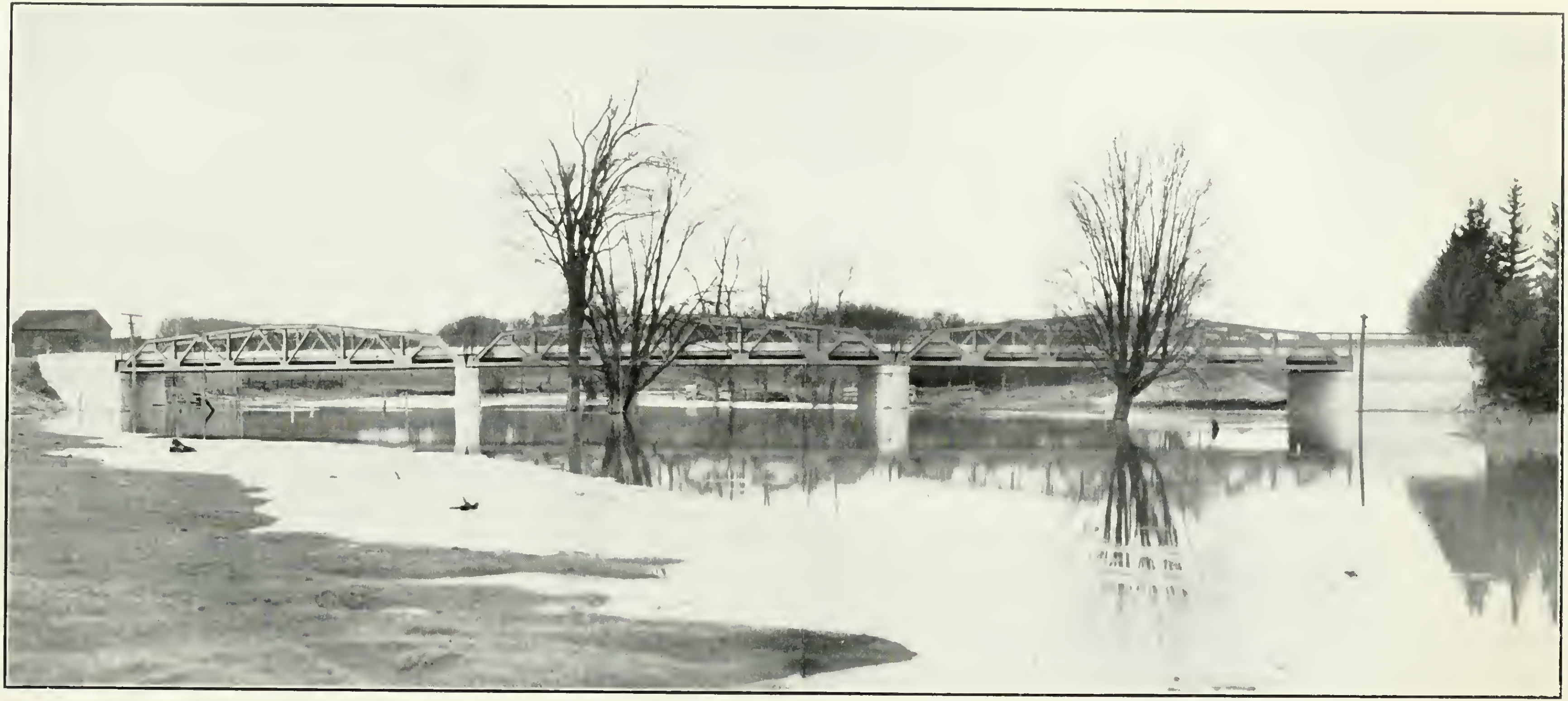
Sir.—We have the honour to submit herewith our Report on the Department of Highway's activities for the years 1930 and 1931.

The report covers operations and the functions performed by the various departments, including King's Highways, Municipal Roads Branch, Accounting, Bridge Construction and the Motor Vehicles Branch.

I have the honour to be, Sir,

R. M. Smith,
Deputy Minister of Highways.

Parliament Buildings,
Toronto, October 21st, 1932.



Highway No. 26, Nottawasaga Bridge.

ONTARIO AND ITS HIGHWAYS

By R. M. Smith, Deputy Minister

With the passing of the year 1929 and its resultant failures came the natural reaction—retrenchment. Fortunately, or unfortunately, the Province of Ontario was in the process of bringing many projects to a conclusion. To stop or delay the completion of work already under way was to invite criticism because of false economy, and so during 1930 and 1931 we have carried forward our public works trying to keep in mind that a sane construction programme went far toward stabilizing the unsettled conditions caused by the depression.

In addition, the continuity of our work has done much to lessen the number of unemployed, approximately 25,000 men finding employment annually either on the work of road construction or in the production of materials that go into our highway surfaces.

Materials and wages have taken a very pronounced drop in price in these two years and with a corresponding drop in contract prices there is a tendency on the part of municipalities to take advantage of these conditions, securing much better prices on their work. On the other hand, many municipalities in this Province find it difficult or impossible, because of burdensome taxation, to continue public works at any price. This especially applies where debentures have been issued and are still far from maturing. These in some cases cover works now requiring renewal, while the original construction still remains unpaid for. Fortunate has been the municipality or corporation that has paid as it went.

The passing of *The Highway Act* in 1917 permitted the Province to assume trunk or market roads as Provincial Highways. In the early years the mileage was not great, the demand for additional mileage to be assumed corresponding almost on a parallel with increased motor car registrations. At the present time the main highway system amounts to approximately 3,000 miles, 424 miles of which were added during 1930-31. The policy of the department has been to add to our trunk system as far as possible in direct ratio to the mileage completed. At the present time 2,193 miles have been surfaced.

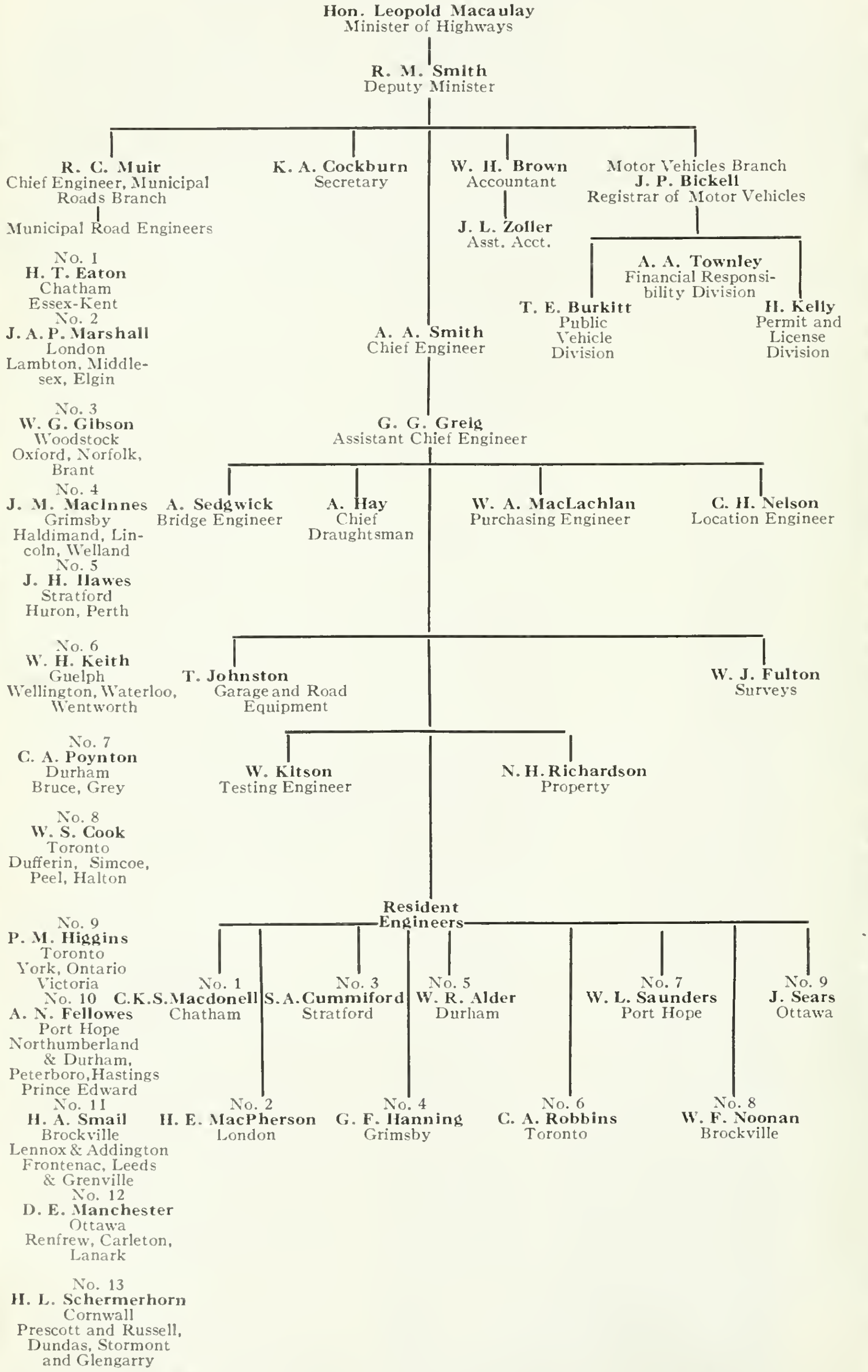
In addition to the development of a considerable mileage of new highways, we are glad to report very definite progress in the matter of railway grade crossing elimination, twenty-four in all having been removed or improved during the period covered by this report.

Ontario has its system of highways under three distinct jurisdictions, the Province, the county, and the township, the Province assuming control of all trunk roads and paying 80 per cent. of the cost, the balance being borne by the county through which the road passes. The counties have control of all market or main roads tributary to the provincial system and toward which they contribute 50 per cent., the Province paying the balance. The townships have jurisdiction over all municipal roads other than county or Provincial Highways, the Province also contributing toward these roads from 40 per cent. to 80 per cent. of the cost, the percentage varying dependant upon assessment, mileage and population. The municipality pays the balance.

On all provincial work the Provinces takes the initiative, assuming responsibility for both maintenance and construction. On the secondary systems the department acts only in an advisory capacity, the work being done by the counties or townships, as the case may be.

ORGANIZATION CHART

ONTARIO DEPARTMENT OF HIGHWAYS



- **Hon. Leopold Macaulay**, Minister of Highways
  - **R. M. Smith**, Deputy Minister
    - **R. C. Muir**, Chief Engineer, Municipal Roads Branch
      - Municipal Road Engineers
        - No. 1 **H. T. Eaton**, Chatham, Essex-Kent
        - No. 2 **J. A. P. Marshall**, London, Lambton, Middlesex, Elgin
        - No. 3 **W. G. Gibson**, Woodstock, Oxford, Norfolk, Brant
        - No. 4 **J. M. MacInnes**, Grimsby, Haldimand, Lincoln, Welland
        - No. 5 **J. H. Hawes**, Stratford, Huron, Perth
        - No. 6 **W. H. Keith**, Guelph, Wellington, Waterloo, Wentworth
        - No. 7 **C. A. Poynton**, Durham, Bruce, Grey
        - No. 8 **W. S. Cook**, Toronto, Dufferin, Simcoe, Peel, Halton
        - No. 9 **P. M. Higgins**, Toronto, York, Ontario, Victoria
        - No. 10 **A. N. Fellowes**, Port Hope, Northumberland & Durham, Peterboro, Hastings, Prince Edward
        - No. 11 **H. A. Smail**, Brockville, Lennox & Addington, Frontenac, Leeds & Grenville
        - No. 12 **D. E. Manchester**, Ottawa, Renfrew, Carleton, Lanark
        - No. 13 **H. L. Schermerhorn**, Cornwall, Prescott and Russell, Dundas, Stormont and Glengarry
    - **K. A. Cockburn**, Secretary
    - **A. A. Smith**, Chief Engineer
      - **G. G. Greig**, Assistant Chief Engineer
        - **A. Sedgwick**, Bridge Engineer
        - **A. Hay**, Chief Draughtsman
        - **W. A. MacLachlan**, Purchasing Engineer
        - **C. H. Nelson**, Location Engineer
        - **T. Johnston**, Garage and Road Equipment
        - **W. J. Fulton**, Surveys
        - **W. Kitson**, Testing Engineer
        - **N. H. Richardson**, Property
        - **Resident Engineers**
          - No. 1 **C. K. S. Macdonell**, Chatham
          - No. 2 **H. E. MacPherson**, London
          - No. 3 **S. A. Cummiford**, Stratford
          - No. 4 **G. F. Hanning**, Grimsby
          - No. 5 **W. R. Alder**, Durham
          - No. 6 **C. A. Robbins**, Toronto
          - No. 7 **W. L. Saunders**, Port Hope
          - No. 8 **W. F. Noonan**, Brockville
          - No. 9 **J. Sears**, Ottawa
    - **W. H. Brown**, Accountant
      - **J. L. Zoller**, Asst. Acct.
    - Motor Vehicles Branch, **J. P. Bickell**, Registrar of Motor Vehicles
      - **T. E. Burkitt**, Public Vehicle Division
      - **A. A. Townley**, Financial Responsibility Division
      - **H. Kelly**, Permit and License Division

Construction and maintenance have improved during these two years on our county and township roads, the standing of much of the work being on a par with that performed on the King's Highway System. Many miles of gravel or stone roads have been replaced by more permanent types, Portland cement concrete and asphalt surfaces being favoured. At the present date close to 900 miles of these types of surface have been laid.

Our Motor Vehicles Branch reports a 4 per cent. increase in motor car registrations and over 12 per cent. increase in licensed operators. On the other hand, we have a decrease in the amount of revenue collected, due to lowering motor car fees.

We also would draw to your attention the results of the safety responsibility legislation which came into effect in September, 1930. We feel that the amending of *The Highway Traffic Act* permitting the Department to determine as to financial responsibility has done much to lessen accidents and increase the safety of our highways.

The Accounting Department shows an increase in the amount of gasoline tax collected in 1930 of $2,259,241.89 and a further increase of $193,810.56 during 1931. The increase in 1930 is due to a change in the tax from three cents to five cents per gallon, which became effective March 28th, 1929.

The natural deduction would be to assume that motor cars were being used as usual in 1930, but that is not the case as our traffic census indicates a decrease in car movements over twenty-nine highways on which traffic census was taken in 1929 of approximately 3.8 per cent. over 1929 while in 1931 the car movements over the twenty-nine highways increased 11 per cent. over 1930.

In 1930 and 1931 the traffic census was taken on thirty-seven highways, comparing the total on the thirty-seven highways in 1930, with the total on the twenty-nine highways in 1929, there is an increase of 1.2 per cent. Comparing the total on thirty-seven highways in 1930, with 1931, a decrease of 2 per cent is shown in 1931.

REPORT OF HIGHWAYS ACCOUNTANT

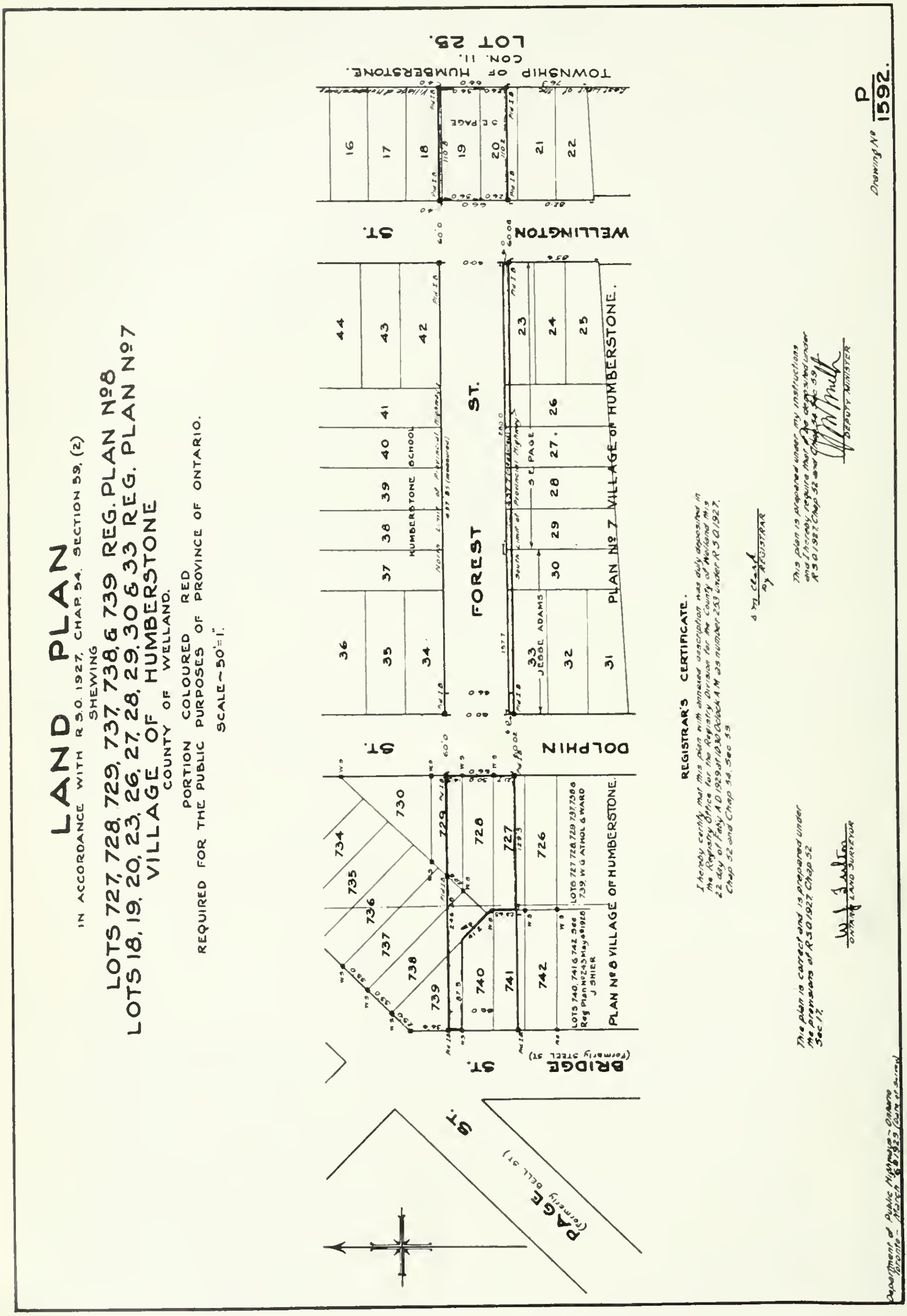
By W. H. Brown

To R. M. SMITH,
Deputy Minister of Highways:

The following is a report of the activities of this Branch in connection with the finances for the fiscal years 1929-30 and 1930-1931.

EXPENDITURE

	1929-30	1930-31
King's Highways	$10,327,284 19	$9,361,683 20
Grants to Counties	4,590,367 00	4,417,696 10
Grants to Townships	2,131,211 67	2,309,576 36
Grants to Indian Reserves	25,520 34	29,603 14
Payments on Connecting Links	85,419 31	40,854 13
Administration and Special Warrants	748,609 49	720,298 04
	$17,908,412 00	$16,879,320 97


LAND PLAN
IN ACCORDANCE WITH R.S.O. 1927, CHAP. 54, SECTION 59, (2)
SHEWING
LOTS 727, 728, 729, 737, 738, & 739 REG. PLAN No 8
LOTS 18, 19, 20, 23, 26, 27, 28, 29, 30 & 33 REG. PLAN No 7
VILLAGE OF HUMBERSTONE
COUNTY OF WELLAND.
PORTION COLOURED RED
REQUIRED FOR THE PUBLIC PURPOSES OF PROVINCE OF ONTARIO.
SCALE ~ 50' = 1".
TOWNSHIP OF HUMBERSTONE.
CON. 11.
LOT 25.
WELLINGTON ST.
FOREST ST.
DOLPHIN ST.
BRIDGE ST. (Formerly STEEL ST.)
PAGE ST. (Formerly BELL ST.)
PLAN No 7 VILLAGE OF HUMBERSTONE.
PLAN No 8 VILLAGE OF HUMBERSTONE.
HUMBERSTONE SCHOOL
North Limit of Provincial Highway
South Limit of Provincial Highway
S. E. PAGE
JESSE ADAMS
LOTS 727, 728, 729, 737, 738 & 739 W. G. ATHOL & WARD
LOTS 740, 741 & 742 Reg. Plan No 243 J. SHIER
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REGISTRAR'S CERTIFICATE.
I hereby certify that this plan with annexed description was duly deposited in the Registry Office for the Registry Division for the County of Welland No 22 day of Feby A.D. 1929 at 10.30 o'clock A.M. as number 253 under R.S.O. 1927, Chap 52 and Chap 54, Sec 59.
A. T. Clark
Dy REGISTRAR
This plan is prepared under my instructions and I hereby require that it be deposited under R.S.O. 1927, Chap 52 and Chap 54 Sec 59.
DEPUTY MINISTER
This plan is correct and is prepared under the provisions of R.S.O. 1927 Chap 52 Sec 17.
ONTARIO LAND SURVEYOR
Drawing No P 1592.
Department of Public Highways - Ontario
Toronto - March 6 1929

In connection with the grants to counties and townships. The road expenditures of thirty-seven counties taking aid were audited for both 1930 and 1931 and adjustments made before payment.

The books of all the townships taking aid were audited for both years. In 1930, three hundred and thirty-seven audits were made and in 1931—349 audits were made adjustments being made before the following year's payment was made.

Revenue

Gasoline Tax.

The collections were made by gasoline dealers who had signed agreements with the Department for the collection of the tax. During the fiscal year 1929-30 the dealers sold 239,058,108 gallons and 1930-31, 248,054,717 gallons.

Auditing 1930.

One hundred and fifty-seven inspections were made of the dealers books resulting in additional revenue of $9,400.74.

One hundred and thirty-eight visits were made to firms having tank car storage and not under agreement additional revenue of $7,265.56.

Four hundred and ninety-seven visits were made in connection with checking rebates resulting in a saving of $987.83 making a total collection and saving in 1930 of $17,654.13.

Auditing 1931.

Two hundred and twenty-nine inspections were made of the dealers' books resulting in additional revenue of $16,716.87 this total also includes firms having tank car storage and not under agreement.

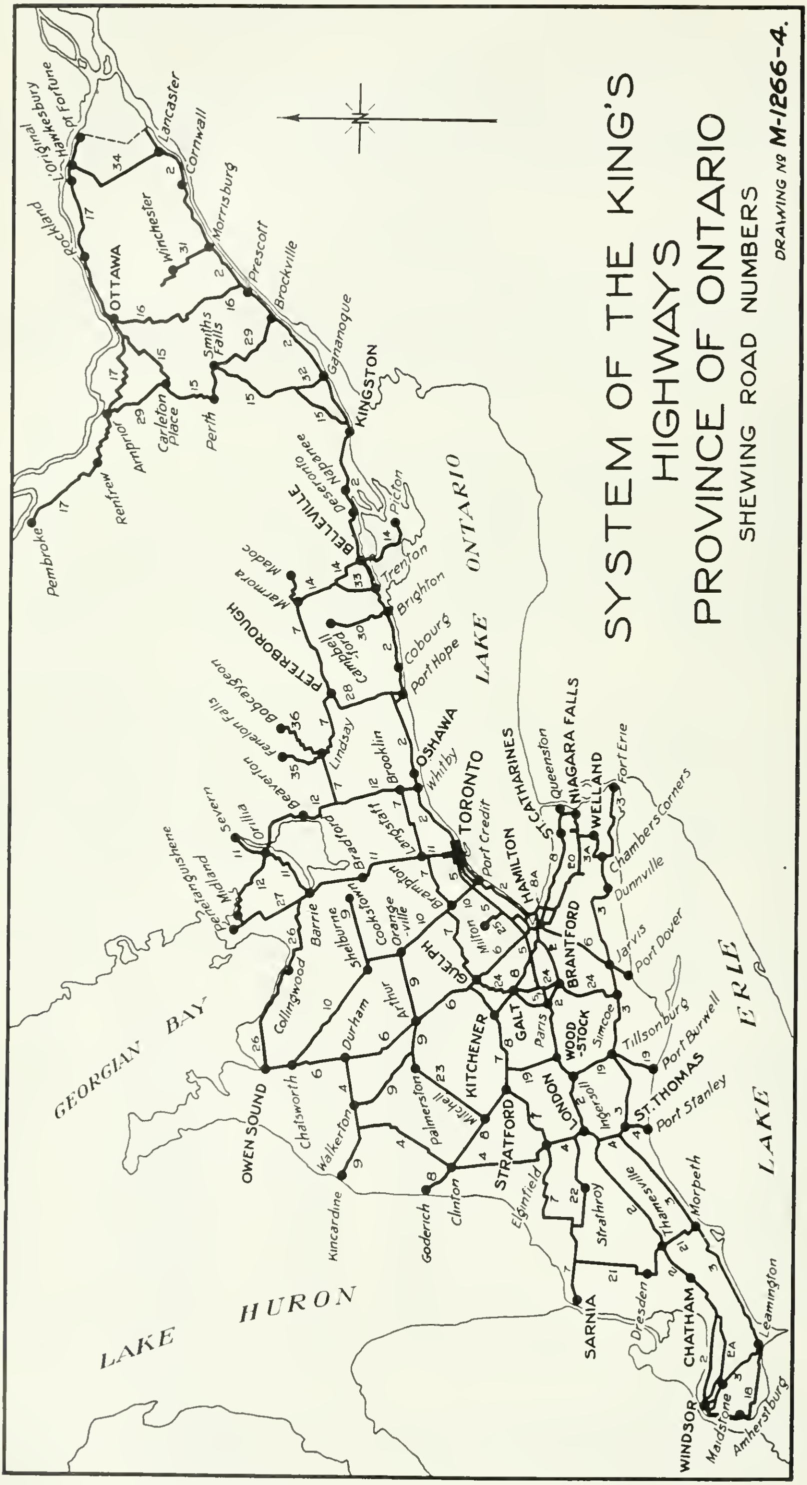
Five hundred and forty-four visits were made in connection with checking rebates resulting in thirteen applications being refused and deductions made amounting to $2,045.01. A total collection and saving in 1931, $18,764.88.

Rebates.

The following is the classification of the rebates paid during the fiscal years 1929-30 and 1930-31:

Class	Number of Claims		Amount of Rebate	
	1930	1931	1930	1931
Municipal Trucks	50	119	$20,782 50	$30,750 89
Government Departments	26	57	4,512 09	10,238 73
Cities, Towns and Municipalities	95	153	15,872 21	16,049 13
Aeroplanes	87	115	13,856 51	10,900 91
American	331	468	10,440 21	10,674 24
Railways	64	68	20,676 43	32,098 21
Lumbering	153	202	22,509 74	29,730 61
Cleaning	377	398	34,116 75	23,280 70
Stationary Engines	1,665	2,600	53,823 01	71,249 04
Contractors	444	570	88,768 51	116,245 61
Motor Boats	1,844	2,693	69,540 07	80,033 22
Manufacturing	1,249	1,183	145,234 63	100,876 99
Farming	11,939	31,770	500,338 70	649,185 68
	25,222	40,396	$1,000,471 36	$1,181,313 96

	1929-30	1930-31
Miscellaneous Revenue	$160,907 21	$87,333 13
Motor Vehicles	5,547,254 58	5,610,442 80
Gasoline Tax (net)	10,756,835 83	10,950,645 39
	$16,464,997 62	$16,648,421 32


SYSTEM OF THE KING'S HIGHWAYS
PROVINCE OF ONTARIO
SHEWING ROAD NUMBERS
DRAWING No M-1266-4.
N
LAKE HURON
GEORGIAN BAY
LAKE ONTARIO
LAKE ERIE
Pembroke
Renfrew
Arnprior
Carleton Place
Perth
Smiths Falls
OTTAWA
Rockland
L'Orignal
Hawkesbury
Pt Fortune
Lancaster
Cornwall
Morrisburg
Winchester
Prescott
Brockville
Gananoque
KINGSTON
Napanee
Deseronto
BELLEVILLE
Picton
Trenton
Brighton
Madoc
Marmora
Campbellford
Cobourg
Port Hope
PETERBOROUGH
Bobcaygeon
Fenelon Falls
Lindsay
Beaverton
Brooklin
OSHAWA
Whitby
Severn
Orillia
Penetanguishene
Midland
Barrie
Bradford
Langstaff
TORONTO
Port Credit
Brampton
Cookstown
Orangeville
Shelburne
Collingwood
Milton
HAMILTON
ST. CATHARINES
Queenston
NIAGARA FALLS
WELLAND
Fort Erie
Chambers Corners
Dunnville
Jarvis
Port Dover
BRANTFORD
GUELPH
Arthur
Durham
OWEN SOUND
Chatsworth
Walkerton
Kincardine
Goderich
Clinton
Palmerston
Mitchell
KITCHENER
GALT
Paris
WOOD-STOCK
Simcoe
Tillsonburg
Port Burwell
STRATFORD
LONDON
Ingersoll
ST. THOMAS
Port Stanley
Elginfield
Strathroy
Thamesville
Morpeth
SARNIA
Dresden
CHATHAM
Leamington
WINDSOR
Maidstone
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KING'S HIGHWAYS, ONTARIO FOR YEARS 1930-1931

A. A. Smith, Chief Engineer

In 1930 the Ontario Legislature authorized an Act changing the name of the main highways of the Province from Provincial Highways to The King's Highways.

During the years 1930-1931 the Highways Department carried on the usual aggressive road building activities, which resulted in the construction of approximately the same amount of pavement, grading, bridges and culverts as in previous years.

Highway No. 11, Concrete Pavement, south of Orillia.

Changes in Highway Design

Each year usually brings a few changes in the design of pavements and so in 1931 a transverse expansion joint was adopted on the following concrete pavements: Five miles east of Omemee, one mile at Woodbridge on the approaches to the new subway under the Canadian Pacific Railway, one mile on the approaches to the new overhead bridge over the Canadian National and Canadian Pacific Railways, four miles west of Trenton and about a half mile on the causeway between the Belleville Bay bridges. These transverse joints were placed approximately seventy-five feet apart and consisted of ¾-inch expansion material extending through the full cross-section of the pavement. By the use of this joint the Department feels that the tendency for pavement cracking will be less pronounced. It is expected that more of this type will be used in future construction of concrete pavements.

Another change made in 1931 in the construction of concrete pavements was in proportioning of the concrete aggregate, this being from a 1 part cement, 1½ parts sand and 3 parts stone or washed gravel mix to a 1-2-3-mix. This entails the use of 17,600 bags of cement per mile.

A further change was made in the curing of concrete pavements, in so far that the concrete when sufficiently set must be covered with burlap or canvas, which is kept moist for twenty-four hours at least. After the removal of the burlap the concrete is then covered to a depth of two inches with earth or suitable material, which must be kept constantly wet for a period of fourteen calendar days.

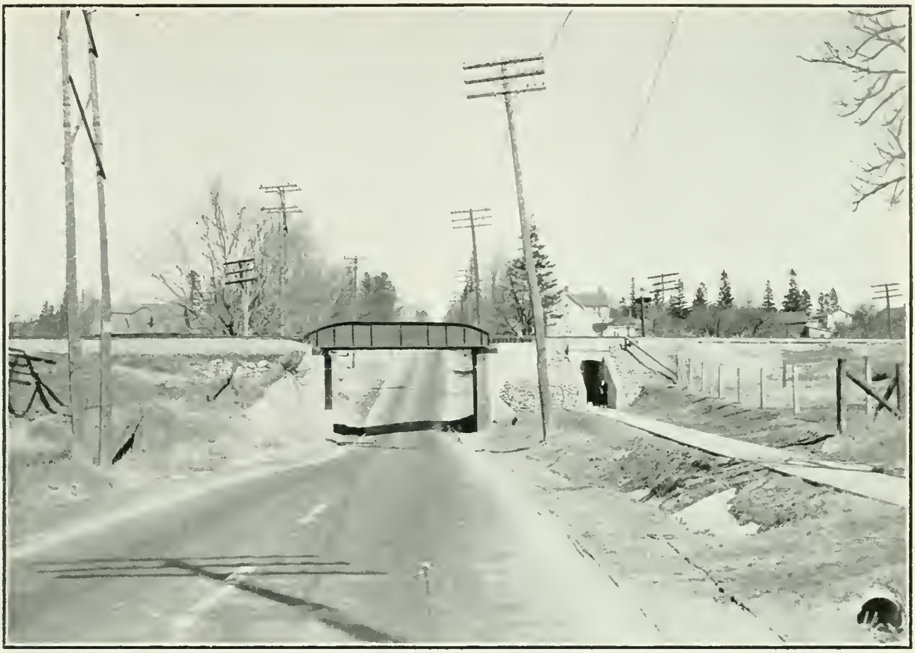
The new cross-section of highway used in level country was tried out in 1931. This places the ditch a few feet from the boundary fence instead of five feet from the pavement as previously; the thought being that many accidents may be averted.

Highway No. 2, Mixed Macadam Pavement, four miles east of Cornwall.

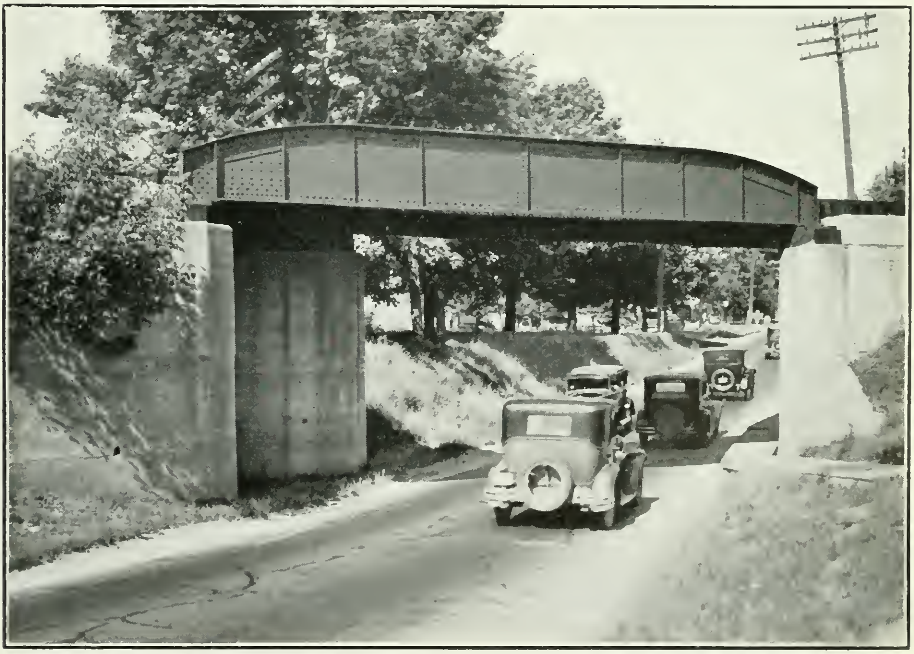
Unemployed Relief Work

In the fall of 1931 the Department called for tenders and let eight contracts for the construction of grading, fencing, bridges and culverts, stoning and gravelling of sixty-four miles of new highway between Actinolite and Perth. The approximate route followed an old Grand Trunk Railway location most of the distance, on which the railway company did a small amount of clearing, grubbing and grading in the year 1881.

During this lapse of time, the location became re-forested, making it necessary to do clearing and grubbing all over again. Where the Department deviated from this old location, it was due to avoiding long swamps with unsound



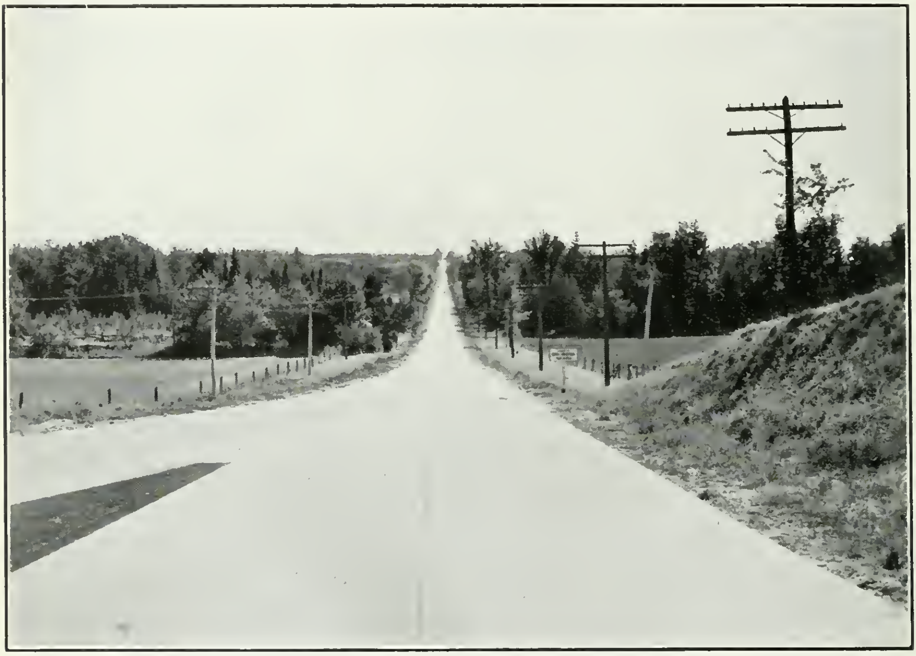
Highway No. 2, Subway at Whitby, showing new Pedestrian Subway.



Highway No. 2, Subway at Whitby, showing old sidewalk.

subgrade, or to obtain better location and avoid excessive earth and rock work. Work was commenced on November 18th and approximately one-sixth was completed by the end of the year. It is anticipated that final completion will be in May, 1932. This new highway when completed will shorten the route from Peterborough to Ottawa by sixty miles. It is estimated that at least 2,000 men will obtain employment on the road throughout the winter months, the men being obtained from Toronto, Oshawa, Belleville, Kingston and all local points. The total estimated cost of the work is $900,000.00.

Other relief work was found by letting a contract for fencing, grading, bridges and culvert construction on the extension of Queen Street, known as the Middle Road west of Toronto. This work commenced at a point a little east of Brown's Line and continued westerly four miles to the Port Credit-Cooksville Highway. It is estimated that seventy-four men and twenty teams will have been taken care of throughout the winter months; one large bridge will be necessary over the Etobicoke River having a centre span of 100 feet and two 26-foot approach spans.

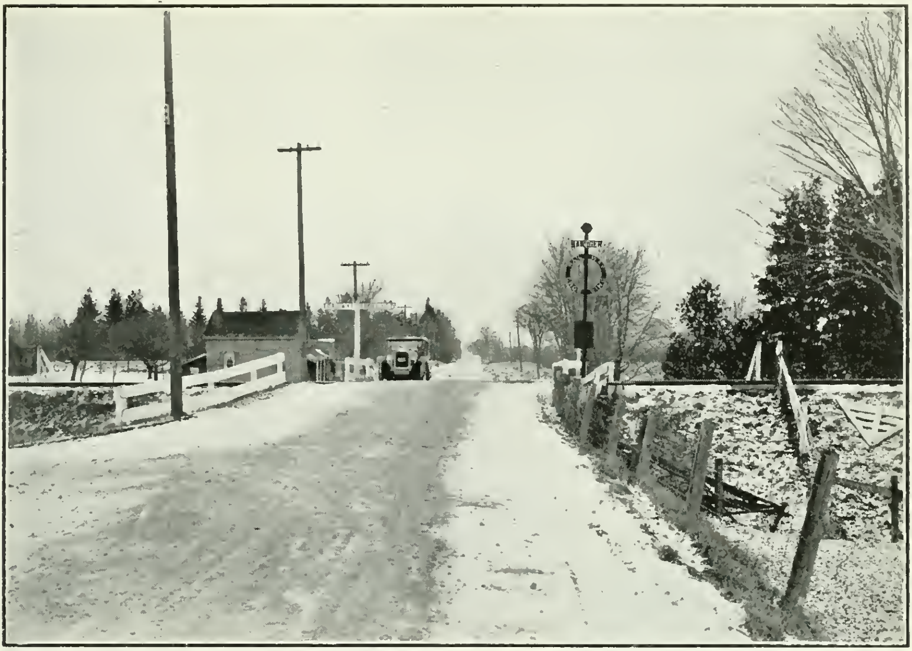


Highway No. 11, Concrete Pavement, four miles northeast of Barrie.

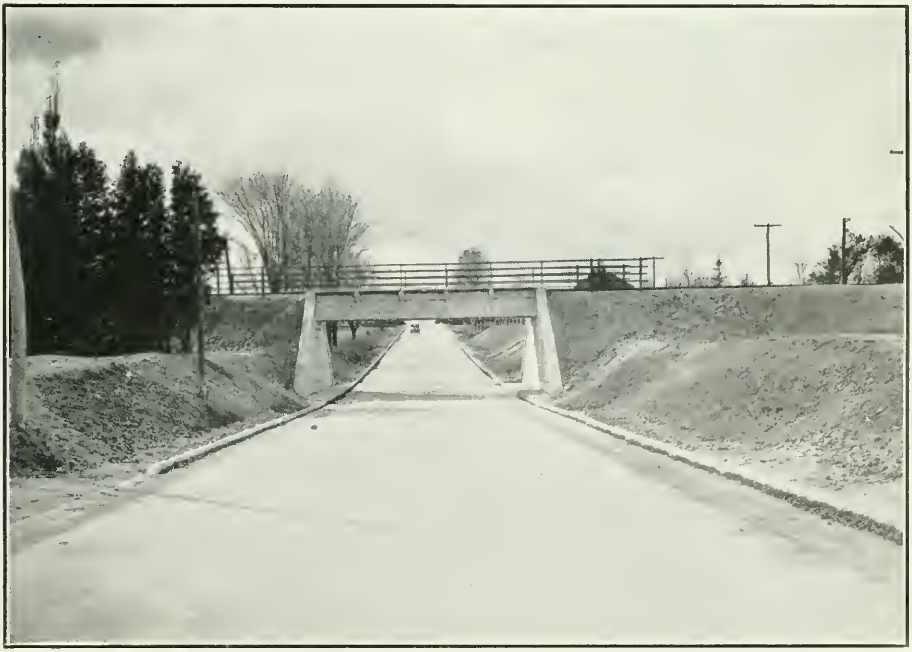
As a relief measure the Department commenced grading operations by day labour on a portion of Highway No. 18 from Amherstburg easterly towards Kingsville. It is estimated that at least 2,000 men and 300 teams will have been employed for a week.

Highway Construction Costs

A very marked decrease in construction costs has been noted during the last ten years as shown in the list given below, of the main items:



Highway No. 7, Old Railway Crossing at Concord, look east.



Highway No. 7, Elliminated Subway at Concord, looking west.

		1931	Total Percent. Decrease
Earth excavation per cubic yard	$0.82—1920-21	$0.40	51.2
Rock excavation per cubic yard	3.59—1920-21	1.38	61.6
Concrete per square yard	2.63—1922	1.70	35.4
Mixed macadam per square yard	2.30—1937	1.80	21.7

The reasons submitted are as follows:

(1) Keen competition between contractors.

Highway No. 7, Penetration Pavement, west of Norval.

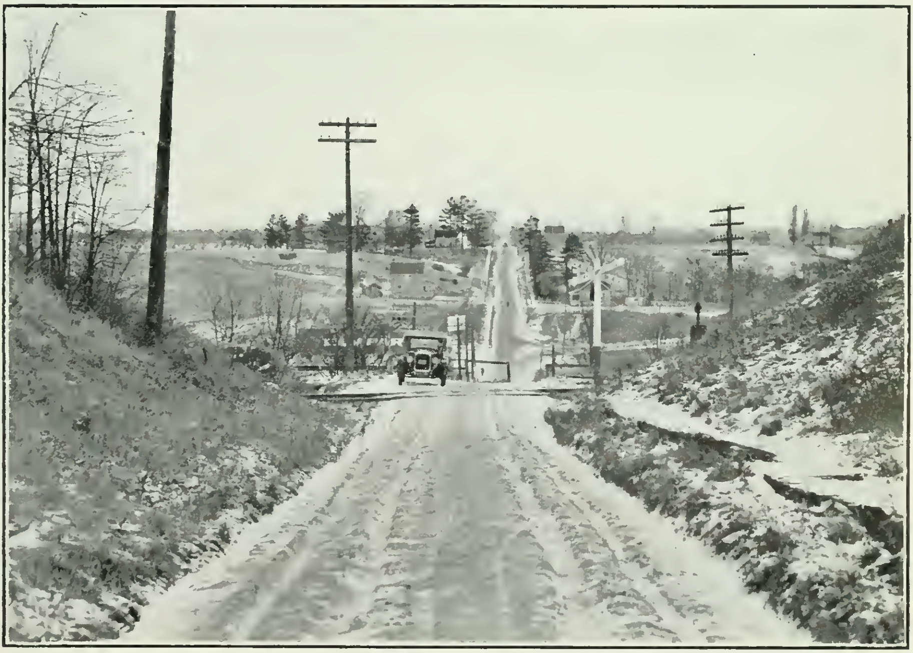
(2) Ontario contractors have continuously improved their plant and organization. Skilled men have been retained from year to year and the most up-to-date machinery purchased. To-day probably no other State or Province has better equipped organizations than the Province of Ontario and the roads that have been constructed are largely due to their efforts.

It is estimated that contractors have purchased equipment to the value of $8,000,000.

In 1920-21, if a contractor turned out 300 tons of crushed stone per day he was well satisfied. To-day, his daily output is over 600 tons.

When concrete pavements were first built approximately 400 lineal feet per day were laid, but now if a contractor cannot lay over 1,000 lineal feet per day he thinks there is something wrong with his organization. All of this means of course a much shorter period of detour maintenance and less disturbance to the travelling public.

Highway No. 7, Subway at Woodbridge, looking east.



Highway No. 7, Railway Crossing at Woodbridge, looking east, now eliminated.

Bridges and Culverts

In 1930-31, seventy bridges and 900 culverts of various sizes were built, details of which will be found in the subsequent pages, and the following structures were erected at railway crossings.

Owen Sound Overhead	Canadian Pacific Railway
Scarboro Overhead	Canadian National Railways
Trenton Overhead	C.P.R. and C.N.R.
Waterford Overhead	Michigan Central Railroad
Webster Side Road Subway (Hamilton East)	Canadian National Railways
Shannonville Subway (change in alignment)	Canadian National Railways
Woodbridge Subway	Canadian Pacific Railway
Concord Subway	Canadian National Railways
Stoney Creek Overhead	Toronto-Hamilton-Buffalo Railway
Bismark Subway	Toronto-Hamilton-Buffalo Railway

Highway No. 17, Mixed Macadam Pavement, east of Hawkesbury.

L'Orignal Overhead	Canadian National Railways
Orillia Overhead	Canadian National Railways
Blenheim Overhead	Pere Marquette Railway
Breslau Subway	Canadian National Railways
Cainsville Overhead	Toronto-Hamilton-Buffalo Railway
Whitby Subway (pedestrian)	Canadian Pacific Railway

In addition to the above, the Department has eliminated eight level crossings by road diversions as follows:

St. Anne's Diversion	Toronto, Hamilton-Buffalo Railway,	2 railway crossings
Havelock Diversion (east of Norwood)	Canadian Pacific “	2 railway crossings
Perth Diversion	“ “ “	2 railway crossings
Wingham Diversion	“ “ “	2 railway crossings

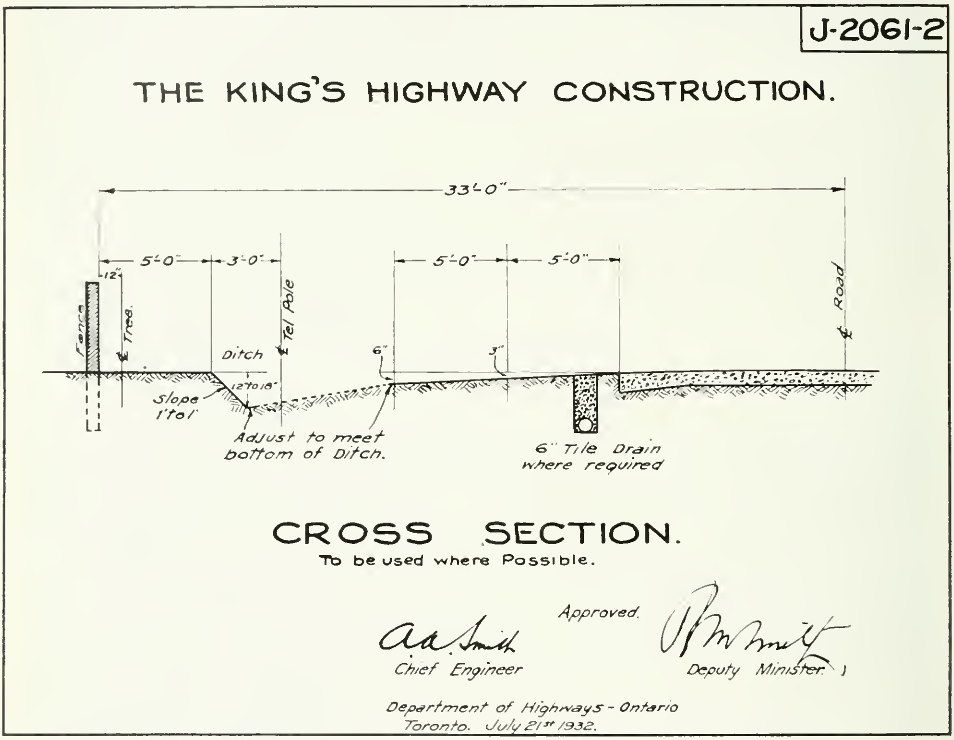
Eighteen bells and wig-wags have been erected at railway level crossings during the two years mentioned. In each case the cost has been divided between the Dominion Railway Board, the railway company and the Department.

Highway No. 7, Madoc to Perth.

Highway No. 7, Madoc to Perth.

1930.—During 1930 the Department assumed 297.22 miles of additional highways and reverted back 25.93 miles to the various municipalities. The assumptions during 1930 consisted of:

Tillsonburg to Ingersoll;
Arthur to Orangeville;
Clinton north to Arthur-Kincardine Road;
St. Thomas to Port Stanley;
Hamilton southeasterly to Highway No. 3, north of Welland;
Thorold to Allanburg;
Bismark to Wellandport;
Brantford north to Galt;
Tilbury westerly on the Base Line to Windsor;
Peterborough to Madoc;
Campbellford to Brighton;


J-2061-2
THE KING'S HIGHWAY CONSTRUCTION.
33'-0"
5'-0"
3'-0"
12"
Fence
℄ Tree
Ditch
Tel Pole
12" to 18"
Slope 1' to 1'
Adjust to meet bottom of Ditch.
6"
5'-0"
3"
5'-0"
℄ Road
6" Tile Drain where required
CROSS SECTION.
To be used where Possible.
Approved.
A.A. Smith
Chief Engineer
Deputy Minister
Department of Highways - Ontario
Toronto. July 21st 1932.

Trenton to Stirling;
From Galt-Dundas Road westerly to Paris;
Lancaster to Hawkesbury;
Stoney Creek Cut-off.

1931.—During 1931 the Department assumed an additional mileage of 167.59 and reverted 14.62 miles to the various municipalities. Highways assumed in 1931:

Orillia to Midland, via Coldwater;
Woodstock to Shakespeare;
Tillsonburg to Port Burwell;
Lindsay to Fenelon Falls;
Lindsay to Bobcaygeon;
Avenue Road north of Toronto city limits to Yonge Boulevard Bridge;
Primrose Corners to Cookstown;
Sandwich to Leamington, via Amherstburg;
Belleville to Actinolite;
Marmora to Madoc;
Humber Bridge to Hurontario Street, via Queen Street.

Highway No. 7, Madoc to Perth.

Highway No. 7, Madoc to Perth, blasting.

MILEAGE OF HIGHWAY CONSTRUCTION

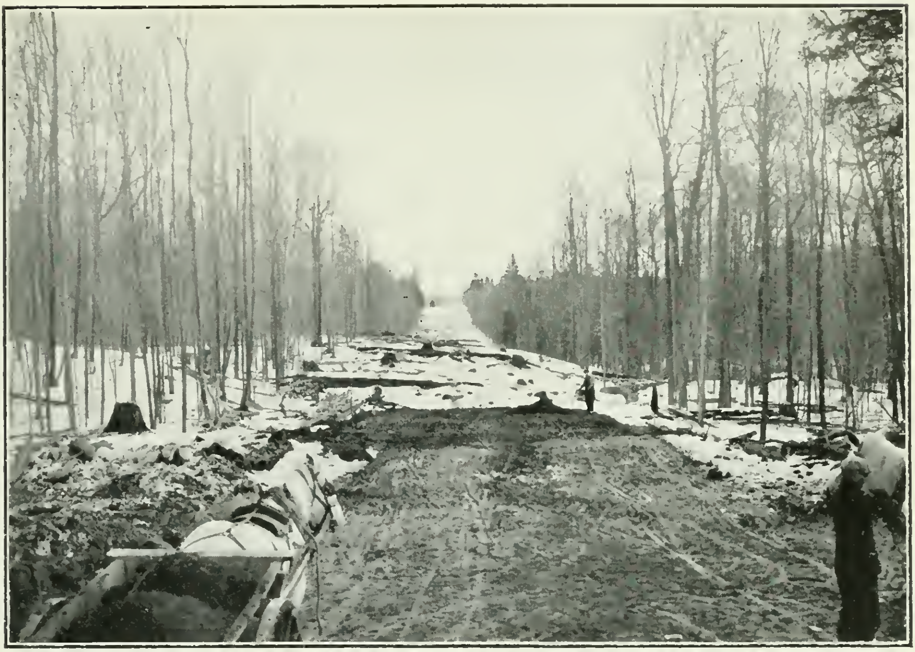
	1930	1931	Total Mileage to End of 1931
Cement concrete pavement	115.16	117.55	1,066.4
Asphaltic concrete pavement	4.16	1.88	220
Mixed macadam	108.85	86.58	455.4
Bituminous penetration	13.00	2.00	176.4
Waterbound macadam	......	......	192.4
Retread	25.0	20.2	83.0
Gravel	......	......	699.4
			2,893.0

Highway No. 24, Mixed Macadam Pavement, nine miles south of Galt.

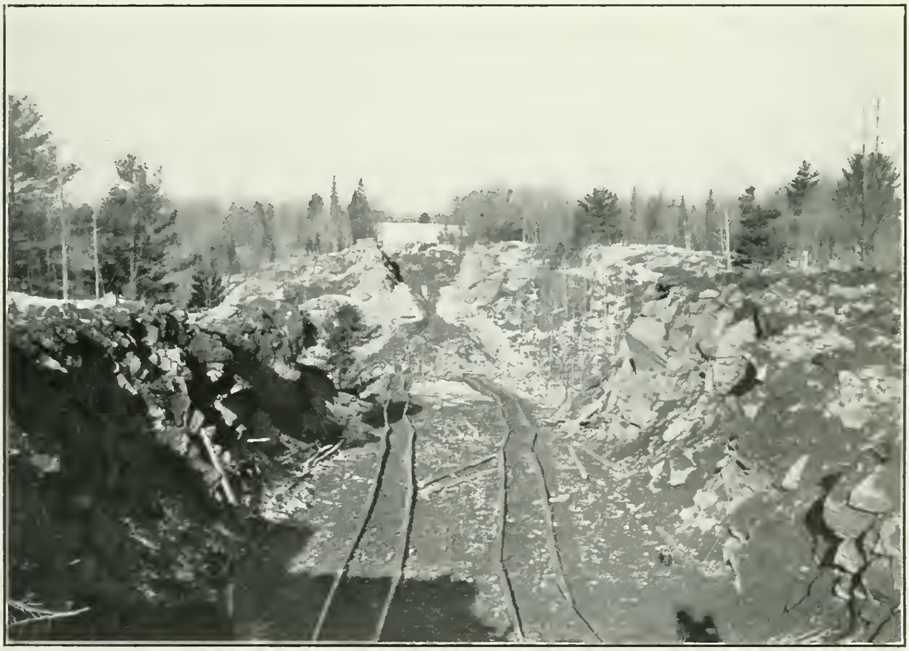
Organization

The King's Highway System which is now 2,893 miles in length is divided into nine districts, each district being approximately 321 miles long and placed in charge of a District Engineer. The nine district offices are located at the following central points: Chatham, London, Stratford, Durham, Grimsby, Toronto, Port Hope, Brockville and Ottawa.

The District Engineers take complete control of all construction and maintenance work. They prepare surveys, plans and estimates of all work undertaken. They also supervise the thorough signing of their districts and the general safety of the highways. Each office has an accounting system which checks and re-checks all accounts rendered. These accounts are forwarded



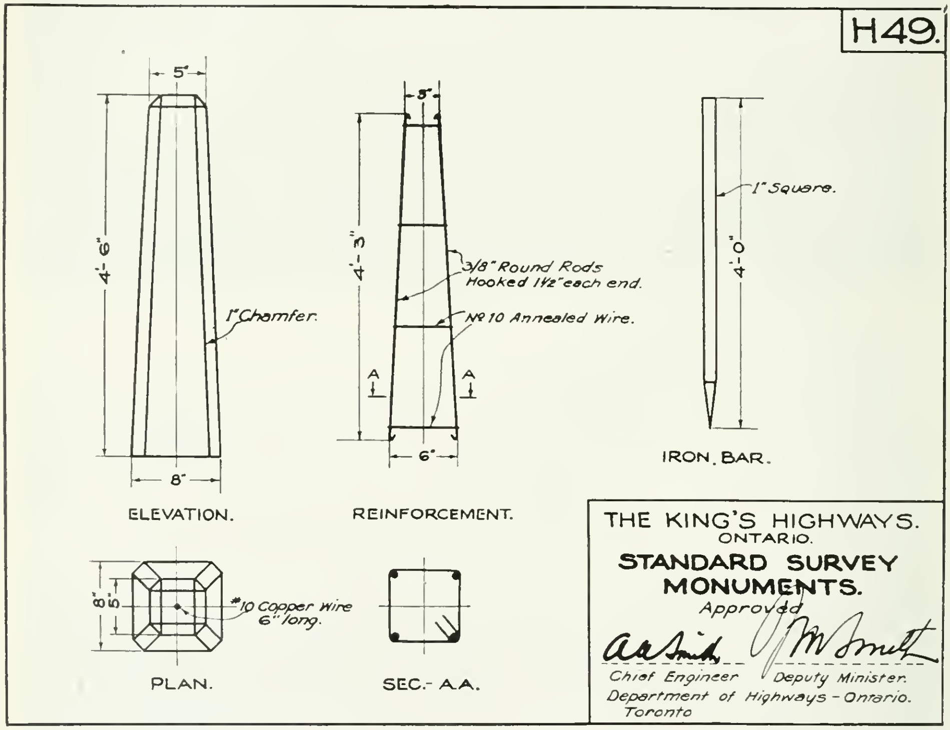
Highway No. 7, Madoc to Perth.



Highway No. 7, Madoc to Perth.

to the Chief Accountant in the Toronto office, where they are again thoroughly checked before submitting to the Audit Department.

For maintenance purposes each District Engineer divides his road into patrol districts varying in length from six miles on gravel roads to thirty-five miles on pavement. These patrolmen are high class foremen, many of whom have had years of experience in this class of work previous to joining the Department. They scarify, gravel and drag all gravel roads, which are kept up to a high standard. They fill any cracks in concrete pavement, patch all holes in other types of pavement, erect, repair and paint all guard rails, erect any fencing required, cut all weeds and grass on the shoulder of the road and take care generally of the whole road allowance. They paint the white centre strip in the middle of the pavement and erect and maintain all warning and direction signs. The patrolmen are required to make any necessary repairs to bridges and culverts, keep all ditches and water courses open and make all repairs caused by washouts to fills and roadbed. In the winter they are responsible for the proper sanding of the pavements when icy conditions prevail and help in the snow clearing work.


H49.
5"
4'-6"
1" Chamfer.
8"
ELEVATION.
5"
4'-3"
3/8" Round Rods Hooked 1½" each end.
No 10 Annealed Wire.
A
A
6"
REINFORCEMENT.
1" Square.
4'-0"
IRON. BAR.
8"
5"
#10 Copper Wire 6" long.
PLAN.
SEC.- A.A.
THE KING'S HIGHWAYS.
ONTARIO.
STANDARD SURVEY MONUMENTS.
Approved
Chief Engineer
Deputy Minister.
Department of Highways - Ontario.
Toronto

The patrolmen are ready to stand by at all times, particularly when accidents occur or when the travelling public requires their assistance.

KING'S HIGHWAY CONSTRUCTION, 1930

During 1930 construction season the Department laid by contract 115.16 miles of concrete pavement, 4.16 miles of asphaltic concrete pavement, 108.85 miles of mixed macadam, thirteen miles of bituminous penetration, twenty-five miles of retread, 115 miles of grading, also some bridges and culverts. Important

Highway No. 7, Madoc to Perth.

Highway No. 7, Madoc to Perth.

among the bridges were level crossing eliminations by overheads at Trenton and Scarboro Junction, both on No. 2 Highway, an overhead was also constructed east of Owen Sound, also work was commenced at Waterford over the Michigan Central and on a high level bridge over the Grand River at Paris; at Belleville Bay bridge a swing span was constructed and the bridge completed.

Grading

Important grading operations were carried out west from Guelph, from Brechin south to Lindsay turn, Orangeville west, from the York county line to Greenbank diversion, between Morpeth and Thamesville, between St. Thomas and Port Stanley, between Hanover and Walkerton, between Ingersoll and Mount Elgin, also east of Rockland and north from the South Nation River at Cass. In October, fifty-five miles of grading was awarded, the most important being the Stoney Creek cut-off connecting Road 8A with Road 20 through the Hamilton escarpment, the balance of the Brooklin-Greenwood road was awarded and also considerable work east of Peterborough, at Norwood and north of Brighton on the Brighton-Campbellford Road. In many of these grading operations outlined above, the culvert construction was included.

Highway No. 11, Snow Plough in Operation—Barrie to Orillia.

Pavement Operations during 1930

On Residency No. 1, Headquarters at Chatham.—Concrete pavement was laid from Sarnia Road southerly through Wyoming to Petrolia, and on the same road the unpaved section between Dresden and Thamesville about four and one-half miles in length was also completed as a concrete pavement. Eight miles of concrete was laid from Tilbury westerly on the Base Line Road.

On the Huron Line into Sandwich the existing concrete pavement was used as a base, widened and topped with a two-course asphaltic concrete pavement, three inches in thickness, forty feet from face to face of curbs.

On Residency No. 2, Headquarters at London.—A three-mile gap at Masonville was paved with concrete. With the completion of this link there is a continuous concrete pavement between London and Sarnia. On the Clinton-Elginfield Road concrete was laid from Kippen southerly to Exeter seven and three-quarter miles, and from Lucan north six and one-half miles, leaving the only uncompleted section on this road a portion south from Exeter to the County Line. Concrete pavement was also laid south from Waterford and a small section in the town of Simcoe.

On the Ingersoll-Tillsonburg Road mixed macadam pavement was laid from Tillsonburg northerly to Mount Elgin.

On Residency No. 3, Headquarters at Stratford.—Seven miles of concrete pavement was laid from Mitchell north to Kennicott, and also a two and one-half mile section between Galt and Hespeler. Bituminous penetration with the base penetrated as well as the top was laid for a distance of 5.4 miles from Fergus north.

On Residency No. 4, Headquarters at Grimsby.—Six miles of concrete pavement was laid from Brantford north on the Brantford-Galt Road. Six miles of concrete pavement was completed from Bismark easterly on the Bismark-Fonthill Road.

A mixed macadam surface was laid on the Hamilton-Queenston Road from Winona easterly about eight miles. Mixed macadam pavement was also laid for the 12.8-mile section between Dunnville and Chambers Corners. One mile between Troy and the Galt-Dundas Road was constructed as a mixed macadam pavement. A mile of asphaltic concrete was laid on the Hamilton Highway west of New Toronto.

On Residency No. 5, Headquarters at Durham.—Seven and three-quarter miles of concrete was laid between Clifford and Mildmay and six miles between Teviotdale and Arthur. These two sections make a continuous concrete pavement from Walkerton to five miles west of Arthur.

Some seven and one-quarter miles of mixed macadam laid between Owen Sound and Meaford completed the hard surface between these two towns.

On Residency No. 6, Headquarters at Toronto.—Concrete pavement was laid from Waverley north about four miles and also a small section of concrete was laid at Elmvale on the Barrie-Midland Road. Eight miles of concrete pavement laid east from Barrie made continuous concrete from Barrie to about five miles southwest of Orillia. A mile of concrete widening from Freeman to the Toronto-Hamilton Highway completed the pavement from Nelson to the Highway.

Mixed macadam was laid from Brampton easterly seven and one-half miles on the Brampton-Thornhill Road and from Palermo north to Milton a distance of eight miles, and also ten miles of mixed macadam from Orillia northerly on the Orillia-Severn River section.

Bituminous penetration pavement was laid from York County east limits westerly through Markham, a total distance of nine and one-half miles on the Brooklin-Langstaff Road.

On Residency No. 7, Headquarters at Port Hope.—On the Lindsay-Peterborough Road six and one-quarter miles of concrete was laid from Omemee westerly and slightly over four miles of concrete from Chemong turn to Fowler's

Corners, this completed the pavement between Peterborough and Lindsay with the exception of six miles from Omemee easterly.

On Residency No. 8, Headquarters at Brockville.—Mixed macadam pavement was laid on No. 2 Highway from South Lancaster westerly and also a section east of Cornwall about 10.6 miles in all; 12.4 miles of mixed macadam was laid east from Kingston on the same road. Nine miles of mixed macadam was laid from Brockville northerly on the Brockville-Smith's Falls Road and six miles of mixed macadam from Smith's Falls westerly on the Smith's Falls-Perth Road.

On Residency No. 9, Headquarters at Ottawa.—Concrete pavement was laid for a distance of ten and one-half miles from Connaught Ranges to Carp, which gives a continuous surface from Ottawa to north of Arnprior. On the Renfrew-Pembroke Road six miles of concrete pavement was laid from Renfrew westerly; 2.6 miles of mixed macadam was laid east from Ottawa on Carling Avenue.

Highway No. 11, Snow Plough in Operation—Barrie to Orillia.

KING'S HIGHWAY CONSTRUCTION, 1931

During 1931 the Department, under contract, built 117.55 miles of concrete pavement; 86.58 miles of mixed macadam; two miles of bituminous penetration and about twenty miles of retread. At the same time about eighty miles of new grading was completed, among the most important sections being rock cut at Stoney Creek through the Hamilton escarpment, the grading of the section from Stirling to Marmora, Paris east to St. George on Governor's Road.

Among the most important bridge and subway works was an overhead at L'Orignal over the Canadian National Railways, the completion of Belleville Bay Bridge, an overhead northeast of Orillia over the Canadian National, an overhead crossing west of Blenheim across the Pere Marquette Railway, Breslau Bridge and subway over the Grand River under the Canadian National, the completion of Waterford overhead across the Michigan Central Railway, the completion of Paris Bridge over the Grand River, Severn Bridge over the Severn River and a large structure across the Nottawasaga River east of Stayner. Besides this many small bridges and culverts were completed throughout the system.

Pavement Construction on the Highway System in 1931

On Residency No. 1, with Headquarters at Chatham.—10.6 miles of concrete was completed from Windsor easterly on the Tillsonburg-Windsor Base Line Road. This only leaves five miles unpaved to complete this section.

On the Petrolia-Dresden Road, 10.1 miles of concrete pavement was laid south from Edy's Mills, also a mile and a half of concrete pavement east from Windsor through Dougall Avenue subway to the Grand Marias drain.

On Residency No. 2, with Headquarters at London.—Concrete pavement was laid from St. Thomas to Port Stanley about eight and one-half miles, also a five-mile gap south of Exeter was completed; this gives continuous concrete pavement from Clinton via London and St. Thomas to Port Stanley. Mixed macadam pavement was laid from Ingersoll southerly, a distance of six miles completing the pavement between Ingersoll and Tillsonburg. Concrete pavement was also laid on the approaches to the new Paris bridge and the new overhead at Waterford.

On Residency No. 3, with Headquarters at Stratford.—Nine and one-quarter miles of concrete pavement was completed between Kennicott and Atwood on the Palmerston-Mitchell Road; 8.6 miles of concrete pavement was laid west from Orangeville on the Orangeville-Arthur Road. Concrete pavement was also laid from Galt southwesterly on the Galt-Paris Road for a distance of five and one-half miles and the balance of this road from the Brant County north limits to Paris, a distance of 5.4 miles was paved with mixed macadam. Mixed macadam pavement was laid from Guelph easterly to Rockwood, about six miles in all.

On Residency No. 4, with Headquarters at Grimsby.—Mixed macadam pavement was laid for a distance of seven miles from Canboro west on No. 3 Highway. Mixed macadam pavement was laid from Fonthill to Turner's Corners and also from Thorold southerly, the two sections being slightly over four miles. Approximately five miles of mixed macadam was laid east of Troy on Governor's Road.

On Residency No. 5, with Headquarters at Durham.—5.3 miles of concrete pavement was laid from Arthur towards Teviotdale and also 8.8 miles of concrete pavement was laid west from Walkerton to Teeswater side road. This gives continuous concrete pavement from Arthur to the Teeswater side road. Concrete pavement was laid from Teviotdale through Palmerston, a distance of a little over five and one-half miles. Mixed macadam was laid from two miles north of Mount Forest to Durham and four miles north to Durham as well. Concrete pavement was laid near Markdale and Flesherton villages approximately one and one-half miles.

On Residency No. 6, with Headquarters at Toronto.—4.7 miles of concrete was laid south of Orillia which makes a continuous concrete pavement between Barrie and Orillia. Six miles of concrete pavement was laid north from Barrie and west from Midhurst. Cement concrete was laid for a distance of about five and one-half miles from the York County boundary westerly to Greenwood on the Langstaff-Brooklin Road. The 3.2 mile gap west of Woodbridge subway, and through the subway was paved, which gives a continuous pavement from Brampton to Yonge Street. Mixed macadam was used on this gap with the exception of half a mile through the subway and approaches, where a thickened slab and a wider section of concrete pavement than the standard highway cross-section was used. Between Yonge Street and Markham, on the Langstaff-Brooklin Road, slightly over two miles of bituminous penetration was laid. This gives a continuous section of bituminous penetration from Yonge Street to York County east limits.

On Residency No. 7, with Headquarters at Port Hope.—Five and one-half miles of concrete pavement was laid east of Omemee. This gives continuous pavement between Lindsay and Peterborough. Cement concrete was laid on the approaches to both Belleville Bay bridge and Trenton overhead. About eight miles of mixed macadam was laid on No. 2 Highway from Frontenac east boundary westerly through Odessa.

On Residency No. 8, with Headquarters at Brockville.—Six and one-half miles of concrete was laid from Winchester north on the road north from Morrisburg. Ten miles of mixed macadam was laid from west of Lancaster easterly to the Quebec boundary, this gives continuous pavement from Kingston to the boundary. Six and one-quarter miles of mixed macadam was laid from Smith's Falls southerly on the Smith's Falls-Brockville Road.

On Residency No. 9, with Headquarters at Ottawa.—3.6 miles of concrete pavement was laid from 6.5 miles north of Renfrew northerly. Mixed macadam pavement was laid between Ashton and Carleton Place, a distance of about seven miles, and also one and one-half miles of mixed macadam was laid on Carling Avenue.

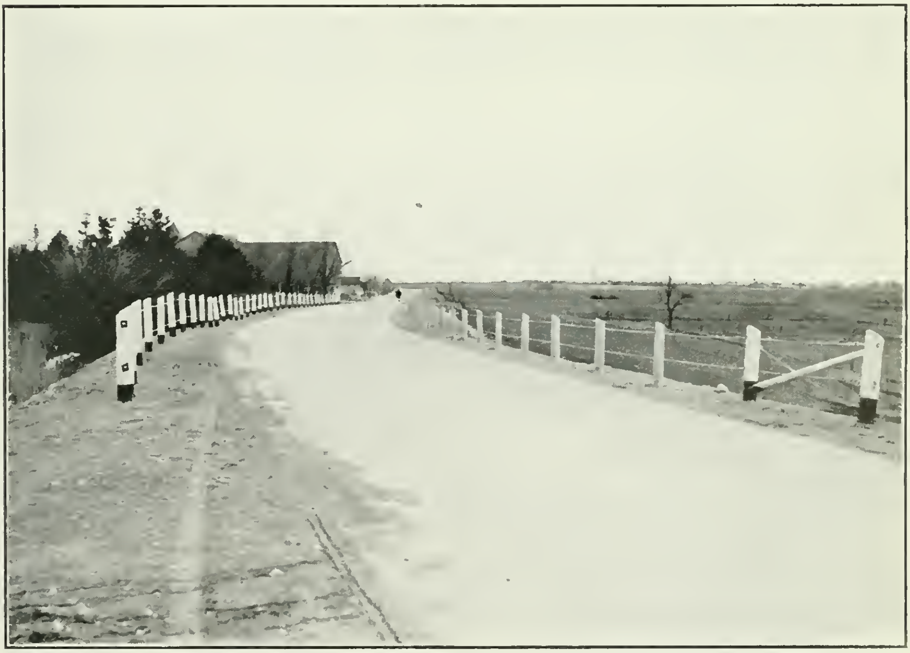
Testing Materials

The testing and investigation of road materials is carried on, with the co-operation of the authorities of the University of Toronto, in the laboratories of the Faculty of Applied Science, the work being done by an engineer and staff of this Department.

The work of the laboratory consists in the inspection and testing of all materials proposed to be used in highway construction. All quarries, gravel and sand pits are inspected before being used and check tests on the materials are made during their period of use.

All concrete poured in bridge and pavement construction is sampled daily, test cylinders being taken and forwarded to the laboratory, where they are tested when at the age of twenty-one days. The following copy of a laboratory record is an example of the manner in which the concrete poured on each contract is checked.

Highway No. 11, Snow Plough in Operation—Barrie to Orillia.



Highway No. 24, Concrete Pavement, three miles south of Galt.

Laboratory Number	Date made (1931)	Date Tested (1931)	Station	Comp. Str. at 21 Days Lb. Sq. In.
788	July 7	July 28	410+00	3,310
789	“ 8	“ 29	416+00	2,910
790	“ 9	“ 30	420+00	3,220
791	“ 10	Aug. 1	426+00	3,020
863	“ 14	“ 4	446+00	3,040
865	“ 21	“ 11	441+00	2,340
866	“ 22	“ 12	448+00	3,710+
867	“ 23	“ 13	452+00	3,710+
868	“ 24	“ 14	458+00	3,090
1011**	“ 25	“ 17	464+00	3,710+
1012	“ 28	“ 18	481+00	2,640
1013	“ 29	“ 19	487+00	3,710+
1014	“ 30	“ 20	494+00	3,710+
1015	Aug. 1	“ 22	510+00	3,710+
1076	“ 5	“ 26	527+00	3,710+
1077	“ 7	“ 28	532+75	2,930
1078	“ 8	“ 29	548+00	2,270
1112	“ 11	Sept. 1	570+00	3,710+
1113	“ 12	“ 2	581+00	3,330
1114	“ 14	“ 4	595+00	3,710+
1115*	“ 17	“ 8	610+00	3,540
1116	“ 19	“ 9	629+00	3,710+
1117	“ 20	“ 10	630+00	3,710+
1167	“ 21	“ 11	650+00	3,710+
1168	“ 22	“ 12	660+00	3,010
1169	“ 24	“ 14	672+00	3,710+
1170	“ 25	“ 15	683+00	3,710+
1171	“ 28	“ 18	703+00	3,710+
1239**	“ 29	“ 21	714+00	3,710+
1240	“ 31	“ 21	726+00	3,710+
1241	Sept. 2	“ 23	773+00	2,760
1242	“ 2	“ 23	740+00	2,980
1264	“ 4	“ 25	762+00	3,710+
1265	“ 5	“ 26	774+00	3,710+
1268	“ 8	“ 29	788+00	3,710+
1269	“ 10	Oct. 1	809+00	3,710+
1270	“ 12	“ 3	832+00	3,710+
1271	“ 15	“ 6	842+00	3,710+
Average				3,412

*Age—22 days.
**Age—23 days.

All asphaltic and tar products are sampled before shipment, from the refineries, and tested in the laboratory before being used on construction.

Soil Tests

For the last three years the Department has experimented in subsoil drainage in an attempt to stabilize the amount of water contained in soils; well points have been established to observe the seasonal variation of the soil water table and the extent to which it is affected by tile drains. "Frost blows" have been studied and tentative remedial measures installed to facilitate a quick dispersal of water released under the pavement by spring thaws. Frost test-boxes were constructed and filled with soils shipped from the silts of Pickering and stoney clay from Kemptville, that daily observations of the action of frost and thaw might be recorded. Frequent levels have been taken on sections of pavement to establish the movement that takes place from the beginning of winter until the frost leaves the ground in the spring and some remarkable profiles have been obtained.

The practical application of the information gained has as yet, rather narrow limits. The subgrade must, for reasons of economy, be made from the soil of the locality but these investigations have enabled the recognition of treacherous soils at the time of grading operations, and have indicated treatments in mitigation, if not in elimination of the trouble. They have indicated the use and limitations of subsoil drainage expedients, and are a useful guide in the selection of a pavement type best suited to the soil on which it is to be laid.

Surveys Branch

When the Department acquires title to the land necessary for the widening and diverting of the King's Highway it does so by filing land plans of which the sketch shown is typical. The limits of the highway are marked on the ground by standard iron bars and by concrete monuments similar to those shown in the accompanying cut. Sufficient iron bars or monuments are planted to enable the Department engineers or outside surveyors to reproduce the highway limits quite easily. This includes planting these bars or monuments at the beginning and end of curves and at each change in direction of the highway.

The property to which the Department is acquiring title is shown coloured red and the owner's name and acreage required by the Department is also shown on plan. The owner's name is that which appears as the last registered owner on the Abstract Index Book in the Registry Office. If the Department only wishes to acquire a limited interest in the property, the date at which this interest expires must be marked on the plan. Two dates are shown on the plan, one marked "date of survey," which is the date on which the survey was completed and the other the date on which the plan was signed.

Descriptions of the parcels taken from each individual owner are written, these descriptions together with the plan signed by the Deputy Minister and Surveyor, are filed in the local Registry Office under the provisions of the Public Works and Highways Improvement Acts. These plans are sent to the Registry Office in duplicate and the Registrar signs both, files one copy and returns the duplicate to the Department. He also gives the plan a number. In addition to this number, the Department also identifies this plan by a number in the lower right hand corner and all these land plans have the Department notation "P." An attempt is made to show on these plans the information on which the Department surveyors base their survey, but in many cases this cannot be fully done.

Title to the land is acquired by the expropriation powers conferred on the Department by *The Public Works Act*. This is true, regardless of whether compensation is to be determined by the Railway Board or whether an amicable settlement is arrived at between the owner and the Department. That is, in all cases, title is acquired by our expropriation powers, regardless of the method of compensation.

Garages, Gasoline Pumps, and Signs

Considerable difficulty has been experienced in the enforcement of the regulations governing the location of garages, gasoline pumps and advertising signs. With closer supervision these regulations are now being rigidly adhered to. These regulations provide that a garage must be placed at least twenty-five feet from the highway limits and gasoline pumps eight feet from the limits of the highway.

Signs are no longer permitted to be erected on the highway, other than those erected by the Department and all other signs within one-quarter of a mile of the highway are controlled by the Department.

Refreshment booths must be placed not less than twenty feet from the limits of the highway and operators are encouraged to keep these booths as neat and tidy as possible.

Property and Claims Branch

The duty of this branch is to purchase all property required by the Department for necessary widening of the King's Highway. This branch also purchases all gravel pits, borrow pits, quarries and all land required for highway diversions.

This branch also looks after all claims made against the Department by property owners due to damage caused by construction.

TOTAL MILEAGE OF THE KING'S HIGHWAYS AT THE END OF 1931

Concrete	1,066.4	miles
Asphalt	220.0	"
Mixed macadam	455.4	"
Penetration	176.4	"
Macadam	192.4	"
Gravel	699.4	"
Total	2,893.0	miles

REPORT OF BRIDGES COMPLETED ON THE KING'S HIGHWAYS

Arthur Sedgwick, Bridge Engineer

During the year 1930, thirty-two bridges were completed on the King's Highways among them being several important structures, notably the following:

Belleville Bay Bridge

Spans 3 and 4 of the old existing structure were replaced by two new steel spans, one of 128 feet and one of 165 feet. This work was carried out without disturbing traffic appreciably. To accomplish this the new piers were made to consist of a concrete-filled caisson fourteen feet ten inches long and eight feet seven inches wide on each side of the existing bridge with the long axis parallel to the length of the bridge. These caissons were formed with steel sheet piling fifty feet long driven to bed rock. All soft material was excavated from inside the caisson and then twelve 10-inch H steel piles were driven or placed inside and the caisson then filled with concrete placed under water. Each pair of caissons were then joined with a reinforced concrete wall or diaphragm ten feet six inches deep and four feet thick and extending from four feet below low water level to the required level to form a pier to carry the bridge trusses.

Highway No. 2, Belle River Bridge.

The new trusses were erected on timber pile false work alongside the existing trusses and a temporary timber floor laid half the width of the roadway. When all was ready the old bridge spans were moved out on falsework and the new spans moved into place. This operation occupied two days time during which it was necessary to close the road to traffic. A permanent concrete floor was then laid on half of the width of the roadway at a time while traffic used the remaining half. This work was started in the autumn of 1929 and completed in the summer of 1930. The total cost of this contract was $94,400.

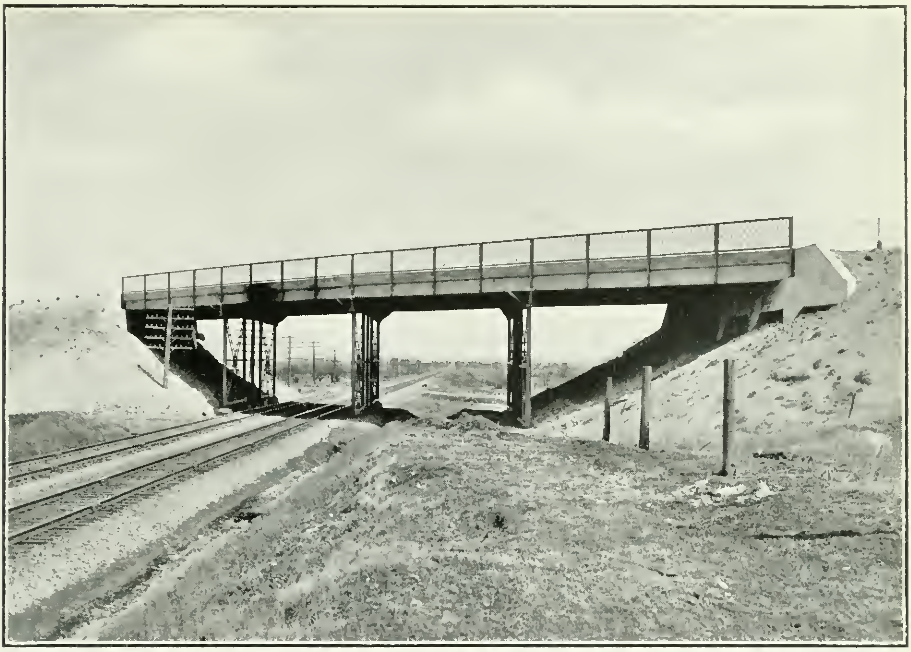
Cass Bridge

This bridge on King's Highway No. 31 over the Nation River is a reinforced concrete structure replacing a 135-foot steel structure. The Nation River sometimes overflows its banks over a wide area during the spring breakup and as the new road will be raised above high-water mark it was necessary to increase the length of the new bridge to allow for adequate waterway during flood conditions. The new bridge consists of three 80-foot spans and two shore spans of thirty-seven feet each. The bridge is designed as two cantilever spans supporting a suspended span in the centre. The use of "flore-tyles" about two feet square greatly reduced the weight of the concrete floor which is carried on two reinforced concrete girders. The thickness of the floor over the "tyles" is four inches and spaces between the "tyles" four inches at the bottom expanding to nine inches at the top. The foundation piers are cast hollow above low-water mark for the portion between the overlying girders. The outside shell varies in thickness from eighteen inches at the footing to twelve inches at the top and is capped over with eighteen inches of concrete. The cost of the structure including the widening of the river channel was $42,900.

Highway No. 31, Cass Bridge, looking east.

Mimico Creek Bridge

This bridge on No. 2 Highway replaces a concrete highway bridge built in 1917 and a steel bridge carrying the electric railway line. The new bridge is a double 50-foot steel girder span with 74-foot roadway and two 6-foot sidewalks with the electric car tracks down the centre. The bridge was built in three stages. The centre portion to be occupied by the car tracks was built first after



Highway No. 2, Overhead Bridge at Scarborough.

Highway No. 2, Overhead Bridge at Scarborough, look east.

which the car tracks were re-aligned to use this portion and the railway bridge was then demolished and the westbound roadway and sidewalk was built and joined up to the centre portion already built. All traffic was then transferred to the portion thus constructed and the existing highway structure was demolished and the remainder of the new structure to carry the eastbound traffic and sidewalk was built and joined up to the centre portion.

The abutments of the railway bridge were incorporated into the new structure. The abutments and centre pier were all carried down to solid rock at considerable expense. The steel girders which are thirty-six inches deep were ordered direct from the rolling mill and placed in the structure without any fabrication. The cost of the bridge and approaches, including the demolition of the existing structures amounted to $72,500.

RAIL
CROSSI
CAUTIO

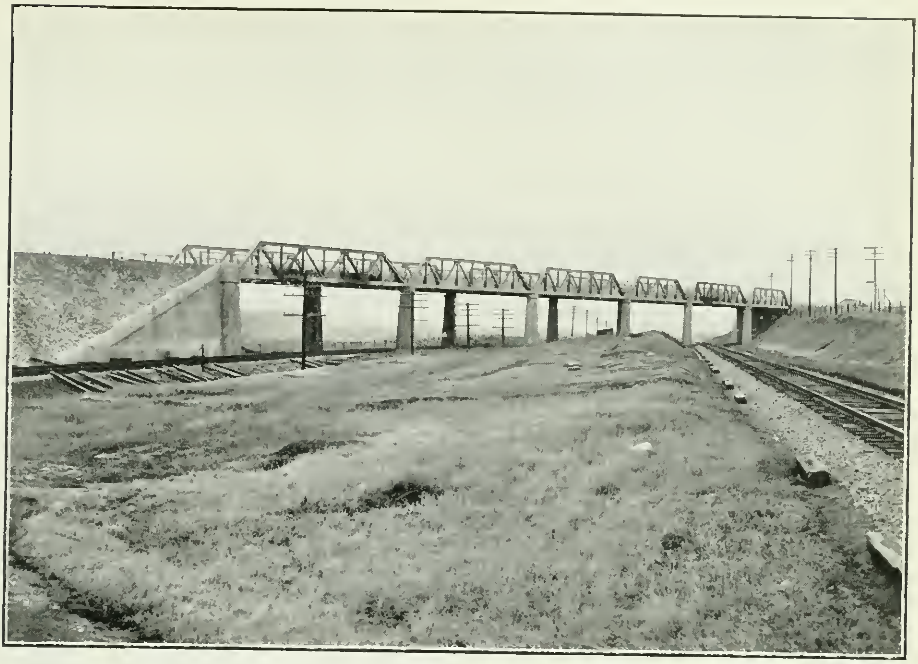
Highway No. 2, Railway Crossing at Scarborough, looking east now eliminated.

Scarboro Overhead Bridge

This bridge over the double track main line of the C.N.R. eliminated a very dangerous level railroad crossing. A 40-foot roadway is provided with two sidewalks and provision made for two extra railway tracks. The bridge is constructed of steel and covered with "gunite" to prevent corrosion of the steel by locomotive fumes. The total cost of the work was $91,850.

Trenton Overhead Bridge

The dangerous overhead crossing on No. 2 Highway, four miles west of Trenton was eliminated by the construction of a new structure with a safe and easy alignment. A steel structure 516 feet long was made to span both C.N.R. and C.P.R. tracks at an angle of twenty-three degrees. A 30-foot roadway



Highway No. 2, Overhead Bridge, west of Trenton.

Highway No. 2, Approach to Overhead Bridge, west of Trenton.

with one sidewalk was provided. All the steel below the floor was protected from locomotive fumes with "Gunite." The total cost was $150,900.

East of Bowmanville three small bridges which were among the very first to be constructed on the Provincial Highway System were widened from 20-foot to 30-foot roadway. This was accomplished in each instance without discarding the original superstructure.

Subways

Subways were constructed on No. 7 Highway at Concord and on Highway No. 2 at Prescott.

During the year 1931 thirty-five bridges were completed, among the more important being the following:

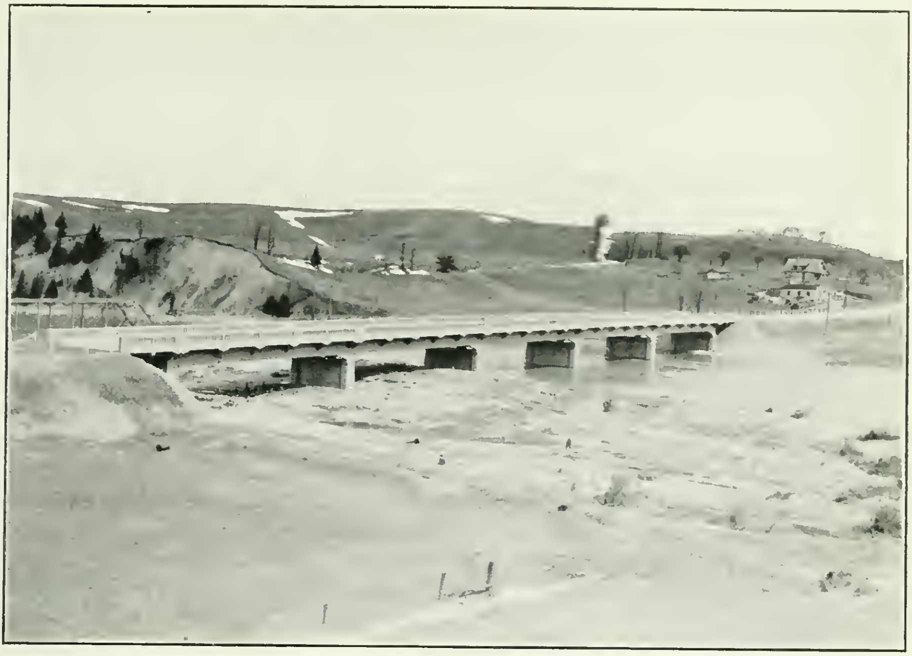
DANGER
300 FEET

Highway No. 2, Approach to Old Overhead Bridge, west of Trenton.

Belleville Bay Bridge

The swing span and remaining fixed span were reconstructed this year which completed the final reconstruction of this bridge. As in the work performed during the previous year, this work was carried out with little or no interruption to traffic. The new piers were constructed with timber cribs which were sunk to bed rock and filled with concrete under water. This was done without interfering with the existing structure. The old swing span was removed and a short temporary moveable span substituted. The new swing span was erected in the open position and the timber floor laid down, leaving the centre panel out until the last when traffic was stopped for one day, after which the bridge was swung to the closed position and traffic resumed over the new structure.

The swing span is electrically operated and equipped with automatic interlocking safety devices. The swing span is 200 feet long and the fixed span 128 feet long and the total cost amounted to $161,700.



Highway No. 7, Concrete Bridge at Breslau.

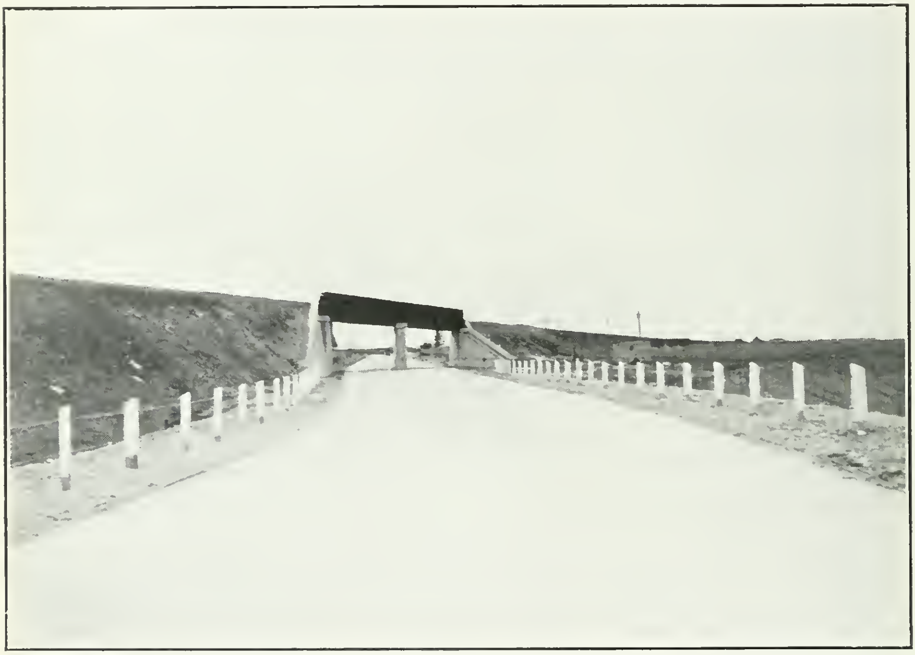
Highway No. 7, Concrete Bridge at Breslau.

Breslau Bridge

The old steel bridge over the Grand River on Highway No. 7 near Breslau was replaced with a reinforced concrete beam bridge consisting of five spans eighty-five and one-half feet long. At the same time a subway was built under the C.N.R. immediately to the west of the bridge.

L'Orignal Overhead Crossing

Highway No. 17 was diverted to the south of the Town of L'Orignal and an overhead crossing built over the C.N.R. This structure is 267 feet long and built entirely of reinforced concrete at the cost of $33,100.



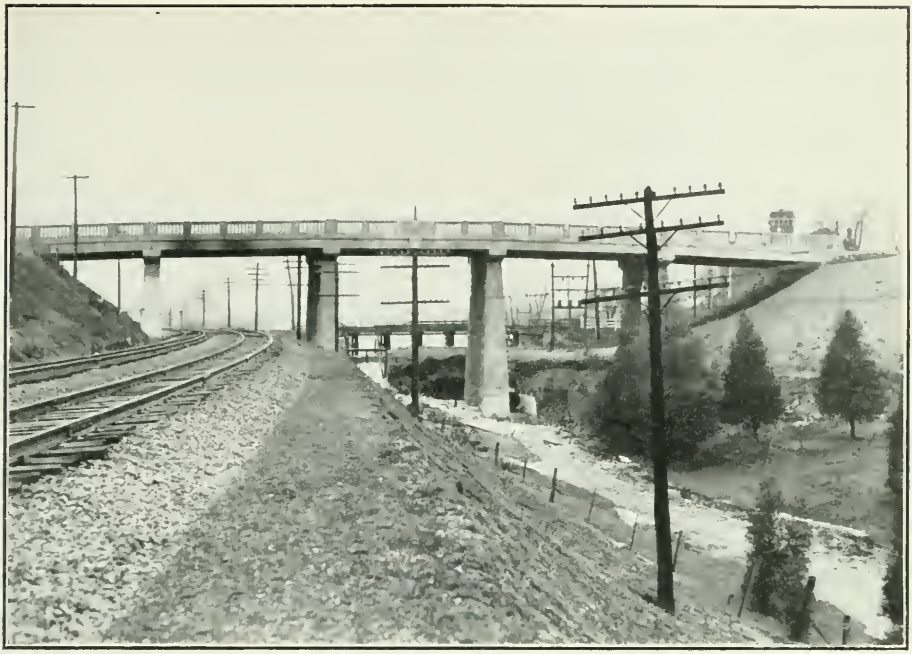
Highway No. 7, Subway at Breslau.

Severn Bridge

The bridge over the Severn River on Highway No. 11 was reconstructed and the road straightened and widened. The new bridge consists of three steel spans of ninety feet each. A novel method was used to construct the river piers. A concrete box or caisson was built in place and sunk to proper position. Holes had been left in the concrete floor through which timber piles were driven. The piles were allowed to project about the floor of the caisson. After the piles were driven the bottom was sealed with a layer of concrete poured under water after which the water was pumped out and the remainder of the pier was completed "in the dry." The total cost of this bridge and approaches was $55,000.

Nottawasaga River Bridge

The old concrete arch bridge over the Nottawasaga which had failed owing to subsidence of foundations was replaced with a steel bridge. All doubts as



Highway No. 24, Overhead Bridge at Waterford.

Highway No. 24, South Approach to Overhead Bridge at Waterford.

to the nature of the foundations were removed by tests made with the core drill operated by the Department and a secure foundation obtained by using 50-foot timber piles. The new bridge consists of three steel spans each ninety-six feet long. The contract included 18,000 cubic yards of grading to widen the roadway, raise it above flood level and for diverting side ditches. The total cost for bridge and approaches was $71,000.

Waterford Overhead Bridge

The dangerous level road crossing in the Village of Waterford on Highway No. 24 was eliminated by means of a 5-span overhead structure. The spans were fifty feet long and consisted of plain steel beams encased in concrete to protect against locomotive fumes and to give further strength. The spans are supported on reinforced concrete bents. Considerable expense was entailed for purchase and demolition of property to provide a straight alignment. The total cost of the work was $54,650.

Other Level Crossing Eliminations

In addition to the Waterford and L'Orignal overhead crossings, overhead structures were completed on Highway No. 11 north of Orillia; Highway No. 3 at Blenheim and Highway No. 20 at Stoney Creek; also subways at Paris on Highway No. 2; Breslau on Highway No. 7 and Bismark on Highway No. 20.

Paris Bridge

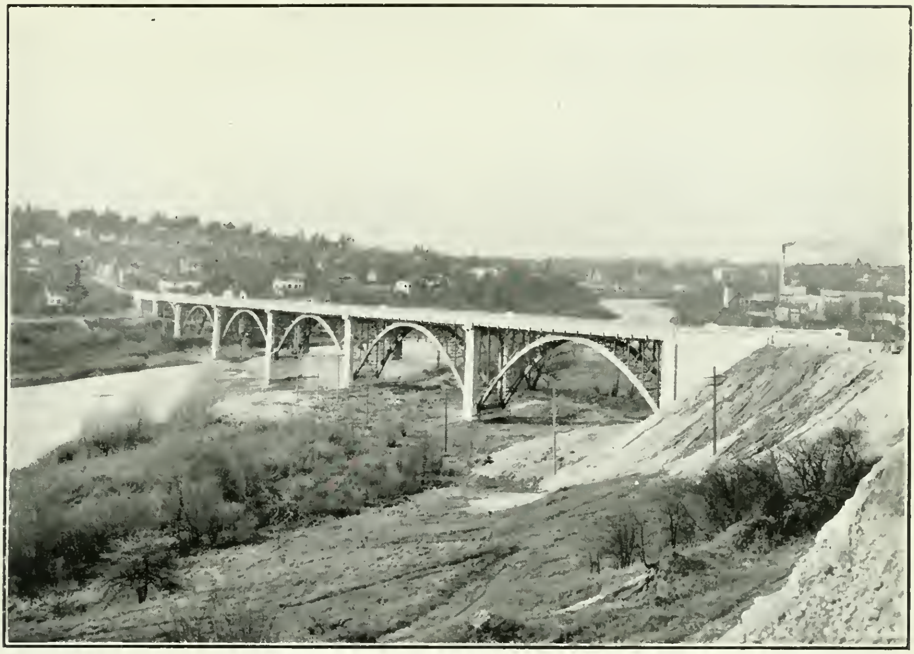
A new high level bridge on Highway No. 2 was built over the Grand River. The floor level is on a two per cent. grade descending to the west. The bridge consists of a 76-foot beam span at the west and under which is carried River Street and six arch spans varying in span from ninety-six feet to 192 feet. The arches are built from 36-inch rolled "I" beams and are fixed at the springings. The piers are carried down to bed rock. At the east end the road was widened and lowered to pass under the T. H. & B. Railway and necessitating the excavation of 36,000 cubic yards of material and a half mile of new pavement forty feet wide. The bridge has a roadway thirty-six feet wide between curbs and is approximately 1,200 feet long.

Newer Developments

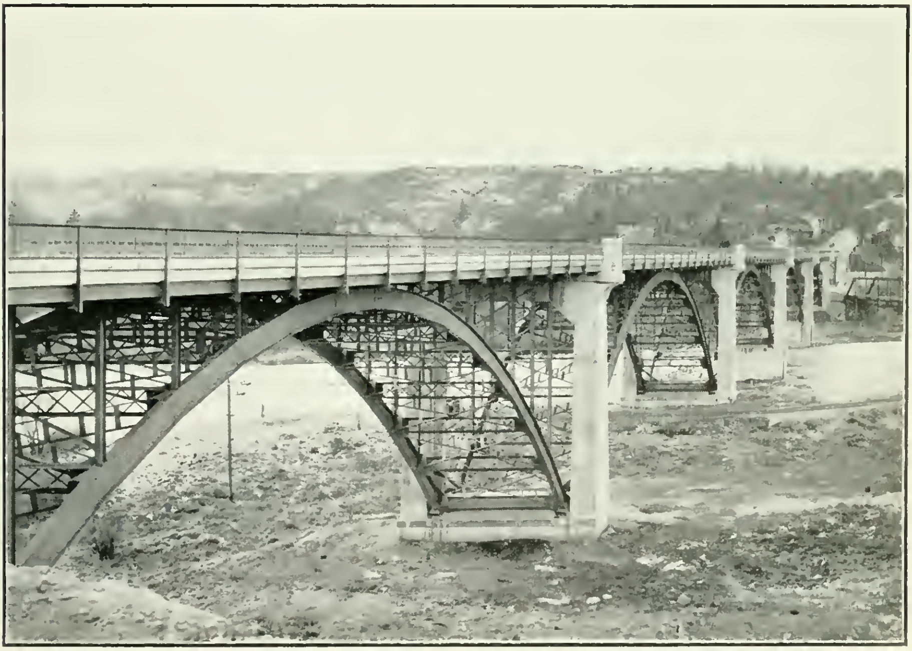
In 1930 it was decided to make the standard width of roadway thirty feet between curbs to accommodate properly, fast heavy traffic.

In 1931 we introduced the use of the rigid frame structure. In this type of structure it is possible to build economically reinforced concrete deck bridges up to at least 60-foot span and when the foundations are dependable will largely displace the bowstring arch design. The rigid frame offers a pleasing appearing structure with a maximum amount of waterway and also economy in cost.

We are now making further studies which it is hoped will permit this type of structure to be used for still longer spans.



Highway No. 2, Paris Bridge.



Highway No. 2, Paris Bridge.

BRIDGES COMPLETED ON PROVINCIAL HIGHWAYS DURING 1930

Name	Type	Span	Road No.	Township	County
Arthur, No. 2	Conc. Truss	83′ 5″	9	Peel	Wellington
Arthur, No. 3	Conc. Truss	66′ 0″	9	Peel	Wellington
Batteau River Exten.	Steel Beam	31′ 2″	26	Nottawasaga	Simcoe
Beaverton	Conc. Truss	71′ 6″	12	Thorah	Ontario
Belleville Bay (spans 3 and 4)	Steel Truss	2 spans, 128′ 0″; 165′ 0″	14	Ameliasburg	Prince Edward
Blackwater Junction	Steel Beam	39′ 6″	7	Brock	Ontario
Camden Twp. Exten.	Steel Beam	26′ 1″	21	Camden	Kent
Cass	Conc. Beam	5 spans, 3 at 80′ 0″; 2 at 37′ 6″	31	Williamsburg	Dundas
Collingwood	Conc. Beam	40′ 0″	26	Nottawasaga	Simcoe
Ebenezer Diversion	Conc. Beam	34′ 0″	7	Toronto Gore	Peel
Gamebridge	Conc. Truss	71′ 6″	12	Thorah and Mara	Ontario
Indian River Exten.	Conc. Arch	46′ 0″	29	Ramsay	Lanark
Little Aux Sable (Clandeboye)	Conc. Truss and Conc. Beam Approaches	1 at 100′ 0″; 2 at 40′ 0″	4	Biddulph	Middlesex
Little Creek	Steel Beams	29′ 6″	2	Tilbury N.	Essex
Logan Township	Double Conc. Cul	2 at 20′ 0″	23	Logan	Perth
McDougall Side Rd.	Conc. Cul	22′ 0″	2	Tilbury E.	Kent
Mimico Creek	Steel Beam	2 at 50′ 0″	2	Etobicoke	York
Nanticoke, No. 2	Conc. Beam	51′ 2″	6	Walpole	Haldimand
New Hamburg	Steel Truss	136′ 0″	7	Wilmot	Waterloo
Nortonville Exten.	Conc. Beam	24′ 0″	7	Chinguacousy	Peel
Owen Sound Overhead	Conc. Beam	3 spans, 2 at 47′ 0″; 1 at 26′ 0″	26	Sydenham	Grey
Prangley Drain	Conc. Truss	66′ 0″	21	Camden	Kent
Richardson Creek Extension	Steel Beam	25′ 1″	17	Nepean	Carleton
Scarboro Overhead	Steel Beam	4 spans at 46′ 1″	2	Scarboro	York
Soper Creek, East Branch Exten.	Steel Truss	52′ 2″	2	Darlington	Durham
Soper Creek, West Branch Exten.	Steel Truss	39′ 2″	2	Darlington	Durham
Thamesville Diversion	Conc. Beam	3 spans at 21′ 0″	21	Howard	Kent
Tilbury-Belle River Extension	Steel Beam	35′ 0″	2	Tilbury N.	Essex
Tilbury E.-Raleigh, No. 2	Conc. Beam	2 spans at 28′ 6″	2	Tilbury E. and Raleigh	Kent
Trenton Overhead	Steel Truss	6 spans, 5 at 89′ 0″; 1 at 75′ 0″	2	Murray	Northumberland
Wallace Township	Conc. Cul	2 spans at 20′ 0″	23	Wallace	Perth
Wilmot Creek Exten.	Steel Beam	37′ 2″	2	Clarke	Durham

BRIDGES COMPLETED ON KING'S HIGHWAYS DURING 1931

Name	Type	Span	Road No.	Township	County
Arthur, No. 4	Conc. R. Frame	45′ 0″	9	Luther West	Wellington
Arthur, No. 5	Conc. Arch	45′ 0″	9	Luther West	Wellington
Arthur, No. 6	Conc. R. Frame	56′ 0″	9	Luther West	Wellington
Arthur Twp. Exten.	Conc. Beam	26′ 0″	9	Arthur	Wellington
Bassett's Extension	Conc. Beam	24′ 9″	11	King	York
Beaver Creek (west of Troy)	Conc. Beam	45′ 0″	5	Dumfries	Brant
Belle River, No. 2	Conc. R. Frame	Two at 43′ 9″	2	Rochester	Essex
Belleville Bay (Span No. 5 and Swing Span)	Steel Truss	Fixed, 128′ 0″; Swing, 200′ 0″	14	Ameliasburg	Prince Edward
Big Creek, No. 2	Conc. Beam	2 at 45′ 0″	2	Tilbury	Essex
Blenheim Overhead	Steel Beams (encased)	3 at 30′ 0″	3	Harwich	Kent
Breslau	Conc. Beam	5 at 85′ 6″; 2 at 21′ 0″	7	Waterloo	Waterloo
Clinton	Conc. Beam	2 at 50′ 0″	4	Stanley	Huron
Crosby	Steel Beams	38′ 6″	15	S. Crosby	Leeds
Duck	Conc. R. Frame	33′ 0″	2	Rochester	Essex
Duffin's Creek	Conc. Arch	84′ 0″	7	Pickering	Ontario
Fairchild's Creek	Conc. Truss	100′ 0″	2	Brantford	Brant
Greenock Township	Conc. R. Frame	25′ 0″	4	Greenock	Bruce
Kincardine	Conc. Beam	3 at 45′ 0″	9	Kincardine	Bruce
Knowles Exten.	Conc. Beam	24′ 11″	11	King	York
Livingston Exten.	Steel Beam	30′ 0″	26	Vespra	Simcoe
L'Orignal Overhead	Conc. Beam	11 at 20′ 0″ 1 at 47′ 0″ 1 at 10′ 0″	17	Longueuil	Prescott
Nottawasaga	Steel Truss	3 at 96′ 0″	26	Floss	Simcoe
Oil City Extension	Steel Beam	27′ 8″	21	Enniskillen	Lambton
Oil Springs Exten.	Steel Truss and Girder	45′ 0″	21	Enniskillen	Lambton
Orillia Overhead	Steel Beams (encased)	2 at 35′ 3″ 1 at 46′ 0″	11	Orillia	Simcoe
Paris	Steel Arch	6 arch spans from 96′ 0″ to 192′ 0″, Steel Beam Approach Spans	2	Brantford	Brantford
Pike	Conc. R. Frame	56′ 6″	2	Maidstone	Essex
Puce, No. 2	Conc. R. Frame	52′ 3″	2	Maidstone	Essex
Severn No. 2	Steel Truss	3 at 95′ 0″	11	Simcoe	Muskoka
Stevenson Extension	Conc. Beam	27′ 0″	7	Whitby West	Ontario
Stoney Creek Overhead	Steel Beams (encased)	1 at 46′ 6″; 1 at 50′ 0″; 1 at 29′0″	8	Saltfleet	Wentworth
Twenty Mile Creek (St. Ann's)	Conc. Beam	2 at 45′ 0″	20	Gainsborough	Lincoln
Willow Creek, No. 2 (Minesing)	Steel Beams	40′ 0″	26	Vespra	Simcoe
Warwick	Conc. Truss	64′ 6″	7	Warwick	Lambton
Waterford Overhead	Steel Beams (encased)	5 at 50′ 0″	24	Townsend	Norfolk

REPORT ON MUNICIPAL ROADS

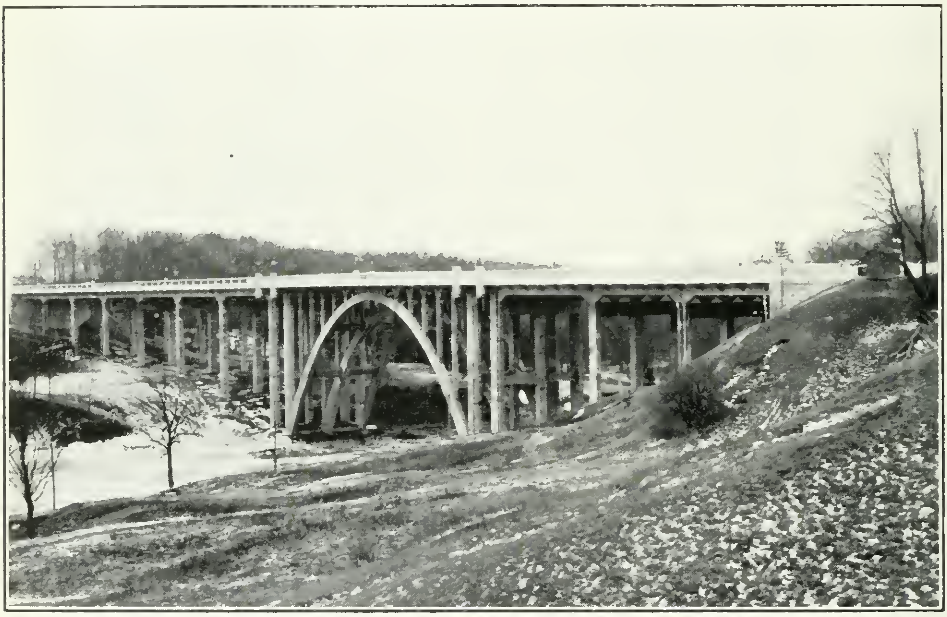
Report upon the work of the Municipal Roads Branch for the years 1930 and 1931

ROBERT C. MUIR, Chief Engineer of Municipal Roads

COUNTY ROADS

Provincial aid to counties on road improvement is given through County Road Systems, under The Highway Improvement Act.

The Highway Improvement Act was initiated in 1901, when an appropriation of $1,000,000 was made by the Provincial Government with a view to aiding the construction of county roads; the Provincial subsidy being 33 1/3 per cent. To-day the Province contributes 50 per cent. of the expenditure made on county roads, including construction, maintenance, machinery and superintendence expenditure.



WOODBINE AVENUE BRIDGE

Length 816'-0", centre span, 174'-0"; width of roadway 48'-0" with two 6-foot sidewalks

Since the passing of The Highway Improvement Act, and to the end of 1931, a total of $113,557,505.24 has been expended on construction and maintenance of county roads, of which the Province has contributed $53,020,368.45. This includes the county expenditure of 1931, on which the provincial subsidy was paid in 1932.

A system of county roads has been established in each of the thirty-seven counties of the Province, although there are a few instances where only the more densely populated section of a county is included in the County Road System, such as the Counties of Victoria, Peterborough, Lennox and Addington, Frontenac and Renfrew.

At the end of 1931 the Province was paying subsidies to the counties on 7,941 miles of county roads—approximately 15 per cent. of the total road mileage in the area covered by the County Road System.

Approximately 96 per cent. of the road mileage under the County Road System has been surfaced with gravel, stone or other more permanent class of surfacing.

Expenditure on county roads in 1930 was as follows:

	Total Expenditure	Provincial Subsidy
Construction		
County Roads	$6,443,004 51	$3,220,398 43
Maintenance		
County Roads	2,486,419 76	1,243,128 68
Total expenditure	$8,929,424 27	$4,463,128 68

Richmond Road Widening

Before Improvement

The work on which the foregoing expenditure for construction was made included the following:

Grading		578.35 miles
Gravel roads	327.64 miles	
Waterbound macadam	126.91 "	
Bituminous macadam	38.84 "	
Cement concrete	63.83 "	
Asphaltic concrete	78.02 "	
Total surfaced	635.24 miles	

Bridges over 10-foot span	79
Concrete slab culverts	170
Pipe and tile culverts	1,536
Tile underdrains	33 miles

In addition, approximately 2,600 miles of stone and gravel roads were resurfaced.

Expenditure on county roads in 1931 was as follows:

	Total Expenditure	Provincial Subsidy
Construction		
County Roads	$4,993,124 55	$2,490,049 42
Maintenance		
County Roads	2,272,226 10	1,135,811 24
Total expenditure	$7,265,350 65	$3,625,860 66

The work on which the foregoing expenditure for construction was made included the following:

Grading		378.28 miles
Gravel	365.57 miles	
Waterbound macadam	62.65 "	
Bituminous macadam	15.76 "	
Cement concrete	13.07 "	
Asphaltic concrete	70.64 "	
Total surfaced	527.69 miles	
Bridges over 10-foot span		81
Concrete slab culverts		130
Pipe and tile culverts		1,463
Underdrains		38 miles

In addition, approximately 2,300 miles of stone and gravel roads were resurfaced.

Construction Work

Probably the most noticeable feature in county road work within the past two years over the early stages of the system has been the construction of a substantial mileage of the more permanent types of surface, such as cement concrete, asphaltic concrete and bituminous macadam. The traffic on many of the county roads has increased in volume to such an extent that the maintenance costs of gravel and stone roads reached a point where economy necessitated the laying of a surface which entailed a greater initial expenditure, but which, on account of the better service, will prove more economical over a period of years. It may be of interest to many, that prior to 1918 only 10 miles of permanent surfaces had been laid in the Province, to-day (end of 1931) we have approximately 890 miles of such surfaces on the County Road System alone.

In addition to constructing pavements, many of the counties have carried out such important work as reducing grades and widening present grades to meet the traffic requirements of the day, also the elimination of dangerous corners and railway crossings. Bridge and culvert construction has received full consideration. Approximately 79 bridges and 190 concrete slab culverts are being built annually. It may be said at this time that the engineers of the Department are endeavouring to encourage the counties to devote more attention to the eliminating of level railway crossings and improving the vision at dangerous road intersections and thereby making our highways safer for the travelling public.

Maintenance Work

A large percentage of the expenditure on county roads is for maintenance and attention is drawn to the appendices of this report. This expenditure is essential for the protection of the investment made in previously constructed roads.

Road Accounting

A uniform system of keeping road accounts has now been established in every county and the procedure of auditing the books of the county officials and the assistance given by the Department has been favourably received and appreciated by the counties.

Urban Work

During the years 1930 and 1931, $457,613.01 and $337,942.66 respectively, were expended on county roads within the urban municipalities on which expenditure the Province refunded to the counties $395,777.83, or 50 per cent. of the expenditure. These expenditures were chiefly for the building of more permanent types of pavement. As a result of the Province's and the counties' liberal assistance, 17 urban municipalities had permanent pavements constructed during these two years. The type of pavements laid being cement concrete, asphaltic concrete on cement concrete or macadam base.

Richmond Road Widening

After Improvement

In addition to permanent pavement construction, the existing surfaces were repaired and maintained with the aid of a refund of road taxes from the county which during 1930 and 1931 amounted to $339,015.17 of which the Province paid 50 per cent.

Road Conference

The Seventeenth Annual Road Conference was held on the 23rd and 24th of February, 1931, and was largely attended by county and township officials.

The conference is becoming more popular each year and is creating great interest among the township officials. Over three hundred were registered at this conference which was the largest meeting held since such conferences were started. The discussion following the addresses was interesting and brought out much valuable information. In addition, the county road superintendent and engineers held a one-day meeting, which took the form of a round-table talk, and from the interchange of ideas it would appear to be in the interests of all concerned that such a meeting should be made an annual affair.

Several district meetings were also held during the year, arranged either by the Department or the municipalities. Such local meetings appear to create a good feeling between the municipality and the Department, and the information obtained is greatly appreciated by all those that attend.

Special Features

Among the special features of road improvement effected during the years 1930 and 1931, the following works may be mentioned.

BRANT COUNTY

In 1930, 10 miles of road was graded 28 feet wide, six miles of which were surfaced with gravel. Four miles of retread surface, composed of asphalt and gravel, 3 inches thick, was laid. A 112-foot span concrete bridge was built and numerous pipe culverts were laid.

In 1931, 4 miles of road was graded 28 feet wide, and six miles of road gravelled. On the Brantford Suburban Roads System one-half mile of cement concrete pavement was laid, 20 feet wide, and three and one-half miles of 3-inch asphaltic retread surface, 9 feet wide, was laid alongside the 9-foot strip of concrete on the Burford Road.

BRUCE COUNTY

In 1930, 13 miles of road was graded, 26 to 30 feet wide, varying in length from 1 mile to 4 miles. This work included gravelling and considerable hill-cutting and the filling of a "sink" hole requiring 10,000 cubic yards of material. Bridge construction consisted of building a 160-foot span over the Sauble River and three small-span bridges.

In 1931, 12 miles of road was graded 30 feet wide and gravelled 24 feet wide. This work included some heavy hill-cutting. Eight miles of tar retread surface was laid and two concrete bridges of 20-foot span were built.

CARLETON COUNTY

In 1930, 14 miles of road was graded, 24 to 28 feet wide, and gravelled 16 feet wide. Three and one-half miles of bituminous macadam (penetration) and one and one-half miles of hot-mix macadam were built 14 feet wide. In addition three miles of tar-gravel mulch were laid. Bridge construction consisted of one 12-foot span and one 20-foot span concrete bridge, 24 feet wide. The Ottawa Suburban Roads Commission under the supervision of their engineer laid 5½ miles of asphaltic cold-mixed surfaced, 20 feet wide, in addition to widening the main artery to the City of Ottawa from 20 to 50 feet with depressed concrete edging. One 12-foot concrete bridge, 52 feet wide was built.

In 1931, 1½ miles of hot-mix macadam surface was laid. The work on the Ottawa Suburban Roads consisted of widening of the 20-foot asphalt pavement on the Richmond Road to 50 feet and the widening of right-of-way and laying three miles of cold-mix asphaltic surface. Other improvements consisted of widening curves, reducing grades and laying approximately five miles of gravel-mulch surface.

DUFFERIN COUNTY

In 1930, 16 miles of road was graded and gravelled and 5 small concrete bridges and one steel bridge built.

In 1931, 4 miles of road was graded 26 feet wide, and 8.5 miles gravelled. The bridge construction consisted of one 120-foot span concrete design and five small-span concrete bridges varying in span from 12 to 40 feet.

Cyrville Road—Touhey's Hill

Before Improvement

ELGIN COUNTY

In 1930, 8 miles of road was graded 30 feet wide and gravelled 16 feet wide. Four bridges were built, two at 16-foot spans, one at 55-foot span and the Gillette Bridge consisting of two 105-foot spans.

In 1931, 3 miles of road was graded and gravelled and 1,300 feet of 20-foot concrete pavement were built.

ESSEX COUNTY

In 1930, 12 miles of road was graded 30 feet wide and gravelled and six bridges over 20 feet in span were built. In addition, 6 miles of 6-inch hot-mixed macadam surface, 20 feet wide and 2½ miles of cement concrete pavement were laid. Eleven concrete culverts were constructed 30 feet wide.

In 1931, 7 miles of road was graded, 30 feet wide, and gravelled 20 feet wide, and 6 bridges built, varying in span from 30 to 120 feet. Three miles of hot-mixed macadam surface, 20 feet wide and 1½ miles of concrete pavement was laid.

GREY COUNTY

In 1930, 12 miles of road was graded, 28 feet wide, and surfaced with gravel 22 feet wide and several dangerous corners were eliminated by establishing curves of 500 feet radius. One bridge, 85-foot span, consisting of concrete substructure and steel superstructure was built.

In 1931, the chief work was the paving of the county roads within the Villages of Flesherton, Markdale and Meaford. In addition three concrete bridges of 30-foot span were built.

HALDIMAND COUNTY

In 1930, 5½ miles of cold-mixed asphaltic concrete surface was laid, 4½ inches thick. Other work consisted of resurfacing with crushed stone or gravel.

HALTON COUNTY

In 1930, 2½ miles of concrete pavement 10 feet wide with 3-foot stone shoulders was built and 2 concrete slab culverts constructed.

In 1931, 10 miles of road was graded 28 feet wide, and gravelled 16 feet wide.

HASTINGS COUNTY

In 1930, 14 miles of road was graded and gravelled. In addition 2½ miles of concrete pavement and 1 mile of cold-mix surface were laid. Also 3 bridges of 24-foot span and one 18-foot span were built.

In 1931, 18 miles of road was graded and partly gravelled.

HURON COUNTY

In 1930, 5 miles of road was graded 30 feet wide and gravelled, and 3 concrete slab culverts built. The chief feature of work during this year was an extension programme of resurfacing existing gravel roads.

In 1931, 17 miles of road was graded 30 feet wide and gravelled 20 feet wide.

KENT COUNTY

In 1930, 20 miles of road was graded 30 feet wide and surfaced with gravel. Ten and one-half miles of concrete pavement 20 feet wide was laid and five bridges widened from 16-foot roadway to a 30-foot roadway.

In 1931, approximately 20 miles of road was graded, 28 feet wide, and surfaced with gravel.

LAMBTON COUNTY

In 1930, 24 miles of road was graded 28 feet wide and surfaced with gravel and three concrete bridges, one 18-foot span, one 20-foot span, and one 35-foot span were built. On the Sarnia Suburban Road 2 miles of premix asphaltic concrete surface was laid 20 feet wide.

In 1931, 4 miles of road was graded and gravelled and a steel bridge consisting of a 180-foot span and 20-foot roadway was built.

LANARK COUNTY

In 1930, 3½ miles of road was graded 24 feet wide and gravelled. In addition, approximately 3½ miles of tar retread surface was laid and four concrete slab culverts built. Bridge construction consisted of 2 12-foot span and one 72-foot span bridges.

LEEDS AND GRENVILLE COUNTY

In 1930 approximately 20 miles of hot-mix macadam and 3 miles of bituminous macadam (penetration) surface was laid. Thirty-two miles of road was graded and surfaced. In addition 3 miles of tar retread surface was laid and 5 concrete slab culverts built.

In 1931 approximately 22 miles of not-mix macadam surface and 3 miles of tar retread was laid; also resurfacing of 25 miles of road with crushed stone.

Cyrville Road—Touhey's Hill

After Improvement

LENNOX AND ADDINGTON COUNTY

In 1930, approximately 18 miles of hot-mix macadam surface and 3 miles of bituminous macadam (penetration) surface was laid. Twenty miles of road was graded and 3 concrete bridges and 3 culverts were built.

LINCOLN COUNTY

In 1930, 14 miles of waterbound macadam road, 16 feet wide and 9 inches deep, was built and surface treated with a bituminous material. In addition 16 concrete slab culverts were constructed.

In 1931, 39 miles of road was ditched and grade widened and 52 miles of road was resurfaced with gravel or stone.

MIDDLESEX COUNTY

In 1930, 11 miles of concrete pavement was built on the County Road System while on the London Suburban Roads 3.54 miles of concrete pavement was built.

In 1931, 9 miles of road was graded 30 feet wide, and river bank protection by planting willows was carried out.

NORFOLK COUNTY

In 1930, 10 miles of road was graded 28 feet wide and gravelled 18 feet wide and one concrete bridge, 16-foot span, was built.

In 1931, 6 miles of road was graded 28 feet wide, and gravelled 18 feet wide. During these years approximately 30 miles of tar-mulch surface was laid.

NORTHUMBERLAND AND DURHAM COUNTY

In 1930, 32 miles of road was graded and surfaced with gravel and 4 concrete slab culverts and 5 bridges, spans varying from 20 to 45 feet, were built. Fourteen miles of hot-mix macadam surface, 18 feet wide, was laid.

In 1931, 14 miles of hot-mix macadam surface, 18 feet wide, was laid on county road north from Town of Bowmanville. Twenty-one miles of road was graded and gravelled and 9 bridges, varying in span from 18 to 36 feet, were built.

ONTARIO COUNTY

In 1930, 14 miles of road was graded and gravelled, also 6 concrete bridges and 4 culverts built.

In 1931, 6 miles of road was graded and gravelled and 2 concrete bridges and 2 culverts built.

PEEL COUNTY

In 1930, 1½ miles of cold asphaltic-mix surface was laid. A dangerous curve and grade was eliminated in the Village of Bolton by straightening the road and reducing the grade 100,000 cubic yards of material being moved in the operation. In addition 14 concrete bridges were built varying in span from 20 to 110 feet.

In 1931, 6½ miles of hot-mix macadam was laid 18 feet wide. In addition 12 miles of road was graded and gravelled.

PERTH COUNTY

In 1930, 24 miles of road was graded 28 feet wide and gravelled. Four concrete slab culverts and numerous pipe culverts were laid.

In 1931, 15 miles of road was graded 28 feet wide and gravelled. One 28-foot span bridge and 2 concrete slab culverts were built.

PETERBOROUGH COUNTY

In 1930, 6 miles of road was graded and surfaced with gravel and 5 concrete culverts were built.

In 1931, approximately 10 miles of road was graded and surfaced with gravel and 3 concrete culverts built.

PRINCE EDWARD COUNTY

In 1930, 10 miles of hot-mix macadam surface and 9 miles of cement concrete pavement were built.

RENFREW COUNTY

In 1930, two bridges over 50 feet in span and 9 concrete slab culverts were built. Special attention was given to widening right-of-way from 40 to 66 feet and widening the road grade. Two and one-half miles of tar retread surface was laid and 18 miles of stone road were surface treated.

In 1931, 6½ miles of tar retread surface was laid, 18 feet wide and 3 inches deep. One bridge of 109-foot span with 20-foot roadway and 4 concrete slab culverts were built.

SIMCOE COUNTY

In 1930, 16 miles of road was graded and gravelled. The paving programme consisted of building cement concrete pavements in the hamlet of Elmvale and in the Village of Port McNicol. In addition the reduction of several steep grades, the laying of numerous culverts and the widening of several bridges was carried out.

In 1931, 17 miles of road was graded and gravelled. A hot-mixed macadam surface was laid in the Villages of Victoria Harbour and Beeton, 3.5 miles in length. The Power's Bridge consisting of two 80-foot spans and one 90-foot span was built.

STORMONT, DUNDAS AND GLENGARRY COUNTY

In 1930, 10 miles of premixed retread surface was laid and 20 miles of road was graded and crushed stone applied to approximately 10 miles in length. Approximately 180 miles of road were surface treated with a bituminous material.

In 1931, 2 bridges, one 76-foot span and one 30-foot span were built. Approximately 14 miles of premixed retread surface was laid.

VICTORIA COUNTY

In 1930, 6 miles of road was graded and gravelled and numerous pipe and box culverts were laid.

In 1931, 12 miles of road was graded and gravelled, including some heavy hill cutting; also numerous pipe and other culverts were laid and two bridges built.

WATERLOO COUNTY

In 1930, 2 miles of concrete pavement 20 feet wide was laid and 1½ miles of concrete pavement was widened and resurfaced with sheet asphalt. Two large bridges were constructed, one 160-foot span and one of two 100-foot spans with 20-foot roadway.

In 1931, 2½ miles of concerte pavement 20 feet wide was laid and one bridge consisting of one 160-foot span and 20-foot roadway was built.

WELLAND COUNTY

In 1930, 9½ miles of cement concrete pavement and 5 miles of hot-mix macadam surfacing were laid, 18 feet wide. The bridge construction consisted of one 62-foot span with 24-foot roadway, one 30-foot span with 24-foot roadway and one 22-foot span with 18-foot roadway and eight concrete slab culverts,

In 1931, the work was chiefly maintenance. One concrete bridge, 22-foot span and 32-foot roadway, was built.

WELLINGTON COUNTY

In 1930, 7 miles of concrete pavement 20 feet wide was laid and 6 miles of road graded and gravelled.

In 1931, 5 miles of road was graded and gravelled.

WENTWORTH COUNTY

In 1930, the Hamilton Suburban Roads Commission built 4 miles of macadam road on the Brow Drive and 2 extra large concrete culverts with retaining walls. Also 2½ miles of tar retread surface was laid.

In 1931, 2½ miles of macadam, ½ mile of which was tar penetration, was built on the Brow Drive, including bridge widening and erection of retaining walls. Two and one-half miles of cold-mix surfacing was laid.

YORK COUNTY

In 1930, 4¾ miles of asphaltic concrete surface on concrete base 20 feet wide; 3.52 miles of hot-mix macadam; 4.30 miles of bituminous macadam were laid. In addition 18 miles of road was graded and gravelled and 14 concrete slab culverts and 6 bridges were built.

In 1931, the pavement construction consisted of 5.3 miles of asphaltic concrete on concrete base; 5.05 miles of cement concrete; 7.92 miles of hot-mix macadam and 4.34 miles of bituminous macadam (penetration). In addition, 1.77 miles of waterbound macadam road was built and 13 miles of road was graded. Four bridges and 25 concrete slab culverts were built.

GENERAL

The work in the remaining counties and other work of the above-named counties consisted chiefly in reshaping and maintaining the existing road, building concrete slab culverts, laying pipe culverts and otherwise preparing for future work.

COUNTY SUBURBAN ROADS

The motor car and motor truck have greatly advanced the general public value of the road, and whereas good roads were regarded a few years ago as solely of rural concern, urban centres have become keenly alive to their value and are willing to bear a fair proportion of the cost. Instead of the farming population being expected to meet the entire cost, it is now fully conceded that as regards main roads, cities and separated towns must share the burden with any other department of transportation or traffic. Cities benefit by rural trade induced by tourist traffic; by the commercial and industrial traffic between cities.

Provision is made under The Highway Improvement Act whereby a city or separated town may co-operate with the county council in improving the leading county roads adjacent to the city or separated town and thereby obtaining a more substantial type of construction for such suburban road.

The work on suburban roads is carried out under the direction of a commission, composed of three members when the city is less than 50,000 population and five members over 50,000 population.

At the end of 1931, 22 cities, all the cities within the organized counties, and three separated towns, Smith's Falls, Walkerville and Brockville, were paying toward the improvement of county suburban roads. The mileage of suburban roads is 712 miles, the expenditure on which at the end of 1931 amounted to $21,111,591.92, of which the cities and the said separated towns have contributed $5,550,569.88 or 4.8 per cent. of the total expenditure made on the County Road System.

Towards the expenditure on construction and maintenance and supervision of county suburban roads, the Province contributed 50 per cent., and the county and city each 25 per cent. The object of the city's contribution is not to relieve the county of the expenditure which they are equitably called upon to make, but rather to improve the standard of roads radiating from the city, and to permit them to be maintained in a condition suited to the traffic over them. Traffic accumulates on the main roads immediately adjacent to the city, and it becomes an unfair charge upon rural districts to construct and maintain roads suited to such accumulated traffic.

In 1930, the expenditure on county suburban roads was $1,737,872.82, of which the Province contributed $868,477.90 and the cities $434,697.46. In 1931, the expenditure was $1,794,860.19 and the Province's share $895,298.84, the cities contributing $449,780.67.

During the years 1930 and 1931, the suburban road commissions constructed approximately 100 miles of permanent surfaces.

The work on the county and county suburban roads has shown remarkable improvement during the past few years, and the counties and commissions in the majority of instances are to be commended on the method of carrying on the work.

The construction of permanent pavements on suburban roads in the close vicinity of the city should be encouraged by all suburban road commissions.

INDIAN RESERVES

Provincial aid towards road improvement in Indian Reserves is provided by Sections 34 and 46 of The Highway Improvement Act. Section 34 provides that where a road in the reserve is a connecting link of the County Road System, the Province will contribute 50 per cent. of the expenditure made on such connecting link of the County Road System, the Province will contribute 50 per cent. of the expenditure made on such connecting link. The purpose of this assistance is to establish uniformity of improvement throughout the County Road System, as there are cases where these roads within the reserve are used extensively by through, or foreign traffic. On other roads (Section 46) within the reserve, the Province contributes 40 per cent. on expenditure made thereon, such roads being placed in the same class as township roads.

During the year 1930, the Reserves of Caradoc, Kettle and Stony Point, Saugeen, Six Nations and Walpole Island received aid on a 50 per cent. basis and the Reserves of Saugeen, Six Nations and Walpole Island received similar aid in 1931. These reserves on this basis expended in said years $22,113.68. On a township road basis, the reserves, in 1930 and 1931, expended $48,269.48 and $00,000.00, respectively.

The work within the reserves consists chiefly of grading and gravelling and the work in the majority of cases is to be commended.

TOWNSHIP ROADS

The township road plays a most important part in the development of this Province and the improvement of such roads must not be overlooked.

Our township roads, in the early history of the Province, depended largely on Statute Labour for improvement, this system having been created by the first Parliament of the Province (then Upper Canada) in 1796. In the old days, when traffic moved slowly on a narrow strip of gravel, Statute Labour served its purpose, but with the advent of the motor car it has become obsolete as a road builder. Statute Labour still holds in a few localities but is growing weaker. Money expenditure, raised by general levy on the township assessment, has been steadily increasing, and at the end of 1931, 343 townships have abolished Statute Labour, being approximately 93 per cent. of the townships in the organized counties.

The total approved expenditure in 1930, of the 341 townships receiving aid under The Highway Improvement Act amounted to $5,917,657.28. Subsidies amounting to $2,451,334.10 were paid, being 30 per cent. of the cost of construction, maintenance, bridges, machinery, and 50 per cent. of the cost of superintendence. Apart from the actual financial assistance, the advice and co-operation of the engineers of the Department have been of untold value to the townships and are having a marked effect upon the nature of township road improvement throughout the Province. In bridge and culvert construction, in the elimination of dangerous curves, brush obstructions, narrow fills, and like matters, the impetus towards prompt action and the advice and guidance in the matter of methods and costs have been found to be sound and worthy of adoption.

In 1930, 162 bridges and 266 concrete slab culverts were built by the townships and numerous pipe culverts laid. In 1931, 99 bridges and 177 concrete slab culverts were built. Yearly the mileage of earth roads is diminishing, gravel, stone or other more substantial surface being employed to provide the farmer with a safe and convenient road in seasons of the year when he needs it most. As in other years, work on township roads consisted chiefly of renewing worn-out surfaces and keeping them smooth by frequent dragging—that is, expenditures were largely for maintenance, narrow grades are being widened out, swampy stretches cleared and drained, and effective watercourses established along roadsides to ensure a reliable road surface in all weathers.

The main objective of every township council should be to provide the farmer with a safe and convenient road in seasons of the year when he needs it most.

The following shows the growth of provincial aid to townships on road improvements, under the provisions of The Highway Improvement Act:

1916	$1,241 71	towards Superintendent's salary
1917	1,608 72	" " "
1918	1,910 59	" " "
1919	2,620 60	" " "
1920 (184 townships)	340,973 38	Commencement of aid on improvement
1921 (294 ")	708,486 91	
1922 (312 ")	649,601 47	
1923 (315 ")	614,037 88	
1924 (320 ")	638,940 11	
1925 (272 ")	988,633 29	
1926 (295 ")	1,317,146 17	
1927 (307 ")	1,619,169 74	
1928 (324 ")	1,802,640 64	
1929 (337 ")	2,105,741 41	
1930 (341 ")	2,451,334 10	
	$13,236,705 10	

Standard of Work

The class or standard of work to be done on municipal roads (county and township) will be governed largely by the importance of the road. The amount of traffic using the road will decide as to the amount of expenditure and the type of construction required on the work.

Engineers of the Department

The Department's engineers have now been established within the area allotted to them for the purpose of being closer in touch with the work and for lending their services to the municipal officials to the best advantage. The Department desires to assist and co-operate to the fullest extent with the municipalities in the improvement of roads, and requests that the superintendents communicate with the district engineers of the Department before any permanent work is commenced. The engineers of the Department are at the services of the municipalities at all times in all matters pertaining to road improvement.

APPENDICES

Nos. 1 to 12

APPENDIX

DETAILS OF CONSTRUCTION—

County	Bit. Mixed Method	Culverts Built	Bridges Built	Miles of Grading	Miles of Gravelling
Brant		1 cul. ext. 2 pipe cul. 5 pipe ext.—13		6.39	14.76
Bruce		5, 3 ext., 7 pipe		3.7	3.7
Carleton	2.81		1 exten.		
Dufferin		1 pipe—14		8.7	8.7
Dundas, Stormont, and Glengarry	11.15	7—2 pipe	1	3.35	2.25
Durham and Northumberland		1 exten.	1overhead,3ext.	0.84	0.84
Elgin		28		7.80	8.8
Essex		282L.F.pipe—1		7.84	
Frontenac	12.65	3 ext., 3 pipes		1.05	0.70
Grey	8.8	3—6 ext., 9 pipe	1 overhead		1.0
Haldimand	6.70	4 exten.—1	1	0.37	1.74
Halton		5 pipe 1 pipe ext. 1		0.4	0.4
Hastings					6.68
Huron					4.5
Kent		754 L.F. pipe 25 3 exten.	3	17.42	13.2
Lambton		45 L.F. pipe—2		6.91	11.3
Lanark	9.0	3 ext., 2 pipe	1 exten.	0.4	
Leeds and Grenville	8.85	46—1ext.,4pipe		2.18	20.0
Lennox and Addington					
Lincoln	2.96	12—1 exten. 18 pipe, 1 pipe exten.			6.61
Middlesex		25	1	9.2	26.2
Norfolk				0.5	6.37
Ontario				25.36	26.38
Oxford	6.6	26		6.6	
Peel	7.25	5—2 exten.		0.9	
Perth		1—1 exten.	3	2.1	16.4
Peterborough					
Prince Edward	2.97		1(BellevilleBay, 4 spans)		
Renfrew		2—8 exten.		3.42	3.42
Russell and Prescott		6—2 ext., 4 pipe		2.5	
Simcoe	9.38	14—2ext.,3pipe	1—1 exten.	9.85	9.85
Victoria					
Waterloo		2	1	2.0	7.4
Welland	6.0	8—12 exten. 12 pipe, 1 exten.		4.75	
Wellington		11	2	7.8	6.8
Wentworth	6.17	12 1 pipe, 6 pipe exten.		2.26	12.17
York		5—19 exten.	1—2 subways 1 overhead, 1 Bridge ext.	4.95	4.85

No. 1

PROVINCIAL HIGHWAYS, 1930

Miles W.B. 2 Course Macadam	Miles Bit. Penetration	Miles Asp. Concrete	Miles Concrete Pavement	Lin. Ft. Guard Rail	Lin. Ft. Storm Sewers	Miles Surface Treatment	Miles Gravel Road Maint.	Miles New Fence Erected
....	....	....	5.85	15,156	....	5.4	14.76	3.0
....	....	....	6.6	11,600	12,877 tile	....	30.0	2.2
....	....	....	9.9	6,884	13,867	....	....	0.7
....	....	....	....	950	....	....	17.2	1.55
....	....	....	....	3,611	19,000	15.0	2.65	5.5
....	....	....	....	2,376	....	....	19.96	0.70
....	....	....	....	4,200	820	....	8.8	5.37
....	....	3.08	7.84	4,550	....	3.75	23.54	9.38
....	....	....	....	2,112	23,094	3.1	3.1	0.1
....	....	....	....	18,580	24,187	....	74.4	....
....	....	....	....	....	....	....	1.74	....
....	....	....	1.14	....	....	....	....	....
....	....	....	....	....	....	20.49	48.3	0.88
....	....	....	7.3	2,950	2,220	....	30.2	0.19
....	....	....	3.95	35,500	....	9.40	17.30	20.24
....	....	....	6.91	6,000	....	....	35.26	3.34 .
....	....	....	....	2,350	38,571	12.8	10.95	....
....	....	2.16 cold mix	....	900	6,635	39.65	52.15	9.2
....	....	....	....	....	....	....	....	....
....	5.75 retread	....	5.8	....	8,111	....	6.61	....
....	....	....	9.2	2,000	....	....	26.2	3.38
....	....	....	0.5	....	....	6.0	6.37	....
....	....	....	0.1	....	....	....	....	....
....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	15.5	....	....
....	....	....	7.7	....	15,600	....	23.5	1.7
....	....	....	4.15	....	4,815 tile	....	37.95	2.7
....	....	....	....	....	....	2.97	....	....
....	....	....	6.5	3,000	21,000	2.3	61.15	1.0
....	....	....	....	1,584	....	....	....	3.2
....	....	....	13.90	1,123	....	....	11.8	6.0
....	....	....	6.29	1,750	10,135 tile	....	5.61	....
....	....	....	2.4	....	7,300	....	7.4	....
....	....	....	....	....	....	....	....	....
....	5.0	....	6.16	3,424	42,135	....	12.2	3.8
....	....	....	0.29	3,126	18,505	....	12.17	....
....	7.48	1.2	0.30	....	....	....	....	....

APPENDIX

DETAILS OF CONSTRUCTION—

County	Bit. Mixed Method	Culverts Built	Bridges Built	Miles of Grading	Miles of Gravelling
Brant	......	6—1 exten. 1children'spass 7 pipe	3 1 overhead 1 subway	5.81	8.23
Bruce	......	3; 2 ext., 12 pipe	1	6.2	9.6
Carleton	2.6	1 exten.	......	0.2	......
Dufferin	......	9	......	5.9	5.9
Dundas, Stormont and Glengarry	10.3	5; 6 ext., 4 pipes	1 exten.	13.55	0.6
Durham and Northumberland	......	22—8 C.I.P.	......	7.92	7.92
Elgin	......	......	......	......	......
Essex	......	638 L.F. pipe—14	5	28.08	......
Frontenac	......	1 pipe	......	......	......
Grey	16.8	1—11ext.6pipes	......	2.0	10.4
Haldimand	7.0	3—8 exten. 2 pipe, 13 pipe ext.	......	......	1.74
Halton	......	......	......	......	......
Hastings	......	46—3 exten. 10 C.I.P.	......	14.83	13.73
Huron	......	8—6 pipe	......	9.8	5.3
Kent	......	......	1 overhead	0.60	14.92
Lambton	......	870 L.F. pipe 9 2 exten.	3 1 unfinished	14.01	11.3
Lanark	5.93	2—1 ext., 8 pipes	......	3.11	3.11
Leeds and Grenville	6.25	4 ext., 1 pipe	1	11.99	22.75
Lennox and Addington	7.98	......	......	......	......
Lincoln	......	21, 4 ext., 30 pipe	1—1 subway	7.46	10.21
Middlesex	......	......	......	0.7	25.6
Norfolk	1.75	1—1 exten.	1	4.0	6.37
Ontario	......		......	6.23	6.23
Oxford	6.0	......	......	6.0	11.3
Peel	......	......	......	......	......
Perth	......	......	......	......	12.1
Peterborough	......	37	......	12.13	12.13
Prince Edward	......	......	......	......	......
Renfrew	......	1—4 pipe	......	1.1	1.1
Russell and Prescott	......	2—3ext., 12pipe	1	4.6	8.45
Simcoe	......	2 5 exten.	3—1 exten. 1 overhead	2.47	11.8
Victoria	......	......	......	......	......
Waterloo	......	......	......	3.6	5.6
Welland	4.30	3—2 ext., 5 pipe	......	......	......
Wellington	......	6—4 exten.	......	7.8	6.9
Wentworth	4.65	9—1ext.,6pipes	1 overhead	......	11.01
York	2.7	7—17 exten.	2 exten.	2.45	3.60

No. 2

PROVINCIAL HIGHWAYS, 1931

Miles W.B. 2 Course Macadam	Miles Bit. Penetration	Miles Asp. Concrete	Miles Concrete Pavement	Lin. Ft. Guard Rail	Lin. Ft. Storm Sewers	Miles Surface Treatment	Miles Gravel Road Maint.	Miles New Fence Erected
....	....	....	0.4	28,098	22,200	3.0	12.33	5.7
....	....	....	9.0	9,560	41,871	....	21.0	4.3
	3.8 retread	....	....	7,900	....	....	3.8	0.75
....	....	....	8.6	11,000	10,000	....	16.4	3.24
....	....	....	8.1	7,820	2,218	....	2.85	1.45
....	....	....	0.84	13,134	4,052 tile	....	18.93	6.65
....	....	....	8.9	4,420	2,170	....	....	17.72
....	....	0.73	11.99	....	1,683	....	15.70	46.36
....	....	....	....	500	400	3.1	3.1	....
....	7.3	....	2.0	17,600	44,065	3.57	63.9	7.6
....	2.11 retread	....	....	2,285	....	....	1.74	....
....	....	....	....	....	....	....	....	....
....	....	....	....	18,057	....	....	33.47	3.82
....	....	....	4.5	6,100	12,934	....	25.7	11.5
....	....	....	....	8,412	....	2.17	17.94	14.68
....	....	....	10.1	6,012	180	....	34.36	10.43
....	....	....	....	1,320	5,137	....	11.76	6.84
....	....	....	....	1,100	3,200	25.8	45.9	4.0
....	....	....	....	....	....	7.98	....	....
....	....	....	....	5,151	....	....	10.21	....
....	....	....	0.7	1,120	....	5.3	25.6	10.42
....	6.37 retread	....	2.45	2,240	800	3.0	6.37	4.2
....	0.58	....	5.2	....	....	....	....	....
....	....	....	....	400	....	....	11.3	2.2
....	....	....	....	....	....	....	....	....
....	....	....	11.9	6,400	17,245	....	12.1	0.8
....	....	....	....	11,405	8,976 tile	....	33.8	6.65
....	....	....	0.34	3,556	....	....	....	....
	0.4 retread	....	3.02	18,960	1,972	....	51.65	2.62
....	....	....	....	10,240	3,276	....	8.45	3.76
....	....	....	10.58	3,950	2,000	....	17.0	4.3
....	....	....	5.61	....	9,985 tile	....	5.61	....
....	....	....	5.4	14,400	6,600	....	5.6	....
....	....	....	....	16,340	....	....	....	....
....	....	....	8.0	18,490	36,647	....	6.9	2.6
....	....	....	....	6,228	....	....	11.01	....
....	1.56	....	0.68	....	8,342	....	....	....

APPENDIX No. 5

EXPENDITURE ON THE KING'S HIGHWAYS, 1930 and 1931

		Construction	Maintenance	Total Expenditure	Cost to Province	Cost to County	Cost to Connecting Links and Commissions	Cost to Cities (Sub Area)
		$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Brant	1930	295,977 47	54,284 18	350,261 65	278,144 94	70,052 33	....	2,064 38
	1931	544,357 72	23,975 33	568,333 05	434,768 43	113,666 61	....	19,898 01
Bruce	1930	242,013 31	34,651 39	276,664 70	221,331 77	55,332 93	....	....
	1931	281,996 05	20,167 42	302,163 47	241,730 78	60,432 69	....	....
Carleton	1930	415,104 08	67,958 14	483,062 22	360,573 04	96,612 44	....	25,876 74
	1931	125,123 08	31,959 87	157,082 95	111,028 80	31,416 59	....	14,637 56
Dufferin	1930	88,285 57	19,103 77	107,389 34	85,911 48	21,477 86	....	....
	1931	237,508 04	17,734 87	255,242 91	204,194 33	51,048 58	....	....
Dundas, Stormont and Glengarry	1930	510,924 51	50,934 50	561,859 01	449,487 21	112,371 80	....	....
	1931	622,544 14	40,502 17	663,046 31	530,437 05	132,609 26	....	....
Durham and Northumberland	1930	202,555 63	71,762 26	274,317 89	219,454 32	54,863 57	....	....
	1931	88,974 90	55,255 78	144,230 68	115,384 56	28,846 12	....	....
Elgin	1930	49,244 06	40,210 43	89,454 49	67,036 85	17,890 90	....	4,526 74
	1931	231,806 53	23,038 10	254,844 63	160,269 93	50,968 93	....	43,605 77
Essex	1930	449,495 38	47,460 57	496,955 95	396,052 51	99,391 19	....	1,512 25
	1931	680,160 79	26,790 31	706,951 10	533,361 67	141,390 21	....	32,199 22
Frontenac	1930	439,098 28	27,945 03	467,043 31	342,817 66	93,408 66	....	30,816 99
	1931	53,225 16	17,543 70	70,768 86	53,644 65	14,153 77	....	2,970 44
Grey	1930	434,838 26	127,081 21	561,919 47	406,082 56	112,383 89	....	43,453 02
	1931	516,529 40	65,547 87	582,077 27	461,992 90	116,415 45	....	3,668 92
Haldimand	1930	232,460 51	36,094 37	268,554 88	214,843 91	53,710 97	....	....
	1931	241,201 50	21,988 03	263,189 53	210,551 63	52,637 90	....	....
Halton	1930	290,177 88	62,628 97	352,806 85	281,638 47	70,156 70	1,011 68	....
	1931	27,556 06	25,262 68	52,818 74	41,830 50	10,280 75	707 49	....
Hastings	1930	136,851 20	76,716 59	213,567 79	175,094 04	35,897 26	532 14	2,044 35
	1931	219,034 37	44,803 53	263,837 90	210,552 61	52,535 03	232 55	517 71
Huron	1930	226,590 47	62,519 27	289,109 74	231,287 80	57,821 94	....	....
	1931	210,593 28	27,206 56	237,799 84	190,239 87	47,559 97	....	....
Kent	1930	295,228 32	68,186 71	363,415 03	288,457 75	72,683 00	....	2,274 28
	1931	67,619 12	35,969 64	103,588 76	80,937 71	20,717 75	....	1,933 30
Lambton	1930	215,920 92	43,739 28	259,660 20	207,264 62	51,932 04	....	463 54
	1931	336,168 55	24,125 28	360,293 83	287,817 92	72,058 77	....	417 14
Lanark	1930	238,533 85	52,686 25	291,220 10	232,976 08	58,244 02	....	....
	1931	221,643 53	25,872 70	247,516 23	198,012 98	49,503 25	....	....
Leeds and Grenville	1930	296,595 73	127,517 36	424,113 09	339,290 47	84,822 62	....	....
	1931	408,827 83	73,947 99	482,775 82	386,220 65	96,555 17	....	....

Lennox and Addington	1930	2,938 11	10,770 27	13,708 38	10,966 71	2,741 67	....	....
	1931	155,979 39	6,516 32	162,495 71	129,996 57	32,499 14	....	....
Lincoln	1930	302,479 37	43,172 27	345,651 64	274,029 60	69,130 32	....	2,491 72
	1931	213,328 96	25,462 36	238,791 32	189,587 13	47,758 26	....	1,445 93
Middlesex	1930	321,920 53	102,037 03	423,957 56	335,277 50	84,791 52	....	3,888 54
	1931	75,313 57	61,800 95	137,114 52	106,005 96	27,422 90	....	3,685 66
Norfolk	1930	103,731 68	42,221 63	145,953 31	116,762 65	29,190 66	....	....
	1931	213,949 80	12,753 82	226,703 62	181,362 90	45,340 72	....	....
Ontario	1930	204,972 50	111,591 68	316,564 18	253,251 34	63,312 84	....	....
	1931	316,963 44	62,011 00	378,974 44	303,179 56	75,794 88	....	....
Oxford	1930	235,139 35	32,295 89	267,435 24	212,814 97	53,487 04	....	1,133 23
	1931	268,328 73	20,540 85	288,869 58	229,056 07	57,773 92	....	2,039 59
Peel	1930	271,654 65	91,928 51	363,583 16	290,737 01	72,198 59	647 56	....
	1931	14,814 96	29,122 77	43,937 67	35,061 88	8,434 52	441 27	....
Perth	1930	215,709 94	54,813 73	270,523 67	215,522 49	54,104 74	....	896 44
	1931	260,169 74	34,792 03	294,961 77	234,677 40	58,992 36	....	1,292 01
Peterborough	1930	125,730 68	14,853 35	140,584 03	111,238 49	28,116 80	....	1,228 74
	1931	178,924 68	28,673 59	207,598 27	165,316 94	41,519 65	....	761 68
Prince Edward	1930	69,342 12	12,283 10	81,625 22	65,300 18	16,325 04	....	....
	1931	1,437 59	6,947 57	8,385 16	6,708 13	1,677 03	....	....
Renfrew	1930	265,084 95	55,115 89	320,200 84	256,160 67	64,040 17	....	....
	1931	267,740 68	33,867 46	301,608 14	241,286 52	60,321 62	....	....
Russell and Prescott	1930	63,612 19	29,289 64	92,901 83	74,321 46	18,580 37	....	....
	1931	196,283 46	20,178 92	216,462 38	173,169 93	43,292 45	....	....
Simcoe	1930	833,745 62	158,630 00	992,375 62	793,900 50	198,475 12	....	....
	1931	568,914 02	92,232 78	661,146 80	528,917 44	132,229 36	....	....
Victoria	1930	150,840 71	17,472 19	168,312 90	134,650 32	33,662 58	....	....
	1931	176,907 12	22,255 01	199,162 13	159,329 71	39,832 42	....	....
Waterloo	1930	159,952 30	33,151 78	193,104 08	151,014 82	38,620 82	....	3,468 44
	1931	322,265 35	26,804 01	349,069 36	240,526 17	69,813 87	....	38,729 32
Welland	1930	279,680 05	44,188 62	323,868 67	256,501 81	64,773 73	....	2,593 13
	1931	196,404 75	24,254 71	220,659 46	174,872 45	44,131 89	....	1,655 12
Wellington	1930	356,566 63	53,127 52	409,694 15	319,316 68	81,938 83	....	8,438 64
	1931	427,047 89	33,269 56	460,317 45	353,705 02	92,063 49	....	14,548 94
Wentworth	1930	310 277 81	84,476 30	394,754 11	265,493 03	77,512 05	1,647 75	50,101 28
	1931	332,665 90	52,659 43	385,325 33	297,784 06	76,123 39	1,129 59	10,288 29
York	1930	724,844 02	77,423 76	802,267 78	405,906 33	160,327 46	315 22	235,718 77
	1931	359,487 40	37,294 52	396,781 92	231,740 91	79,127 27	448 29	85,465 45
		19,719,916 06	3,373,452 93	23,093,368 99	17,776,173 76	4,607,330 41	7,113 54	702,751 28
Indian Reserve (Hasting County)	1930	444 73	2,215 98	2,660 71	2,128 57	....	532 14	....
	1931	33 01	1,129 75	1,162 76	930 21	....	232 55	....
Burlington Beach Commission	1930	481 56	6,015 72	6,497 28	5,197 83	....	1,299 45	....
	1931	2,724 81	1,357 16	4,081 97	3,265 58	....	816 39	....
Total	......	19,723,600 17	3,384,171 54	23,107,771 71	17,787,695 95	4,607,330 41	9,994 07	702,751 28

APPENDIX No. 4

EXPENDITURE ON PROVINCIAL SUBURBAN AREAS, 1930 AND 1931

City	Year	Construction	Maintenance	Total Expenditure	Proportion Paid by City
		$ c.	$ c.	$ c.	$ c.
Belleville	1930	1,275 36	8,946 42	10,221 78	2,044 35
	1931	60 34	2,528 20	2,588 54	517 71
Brantford	1930	322 14	9,999 75	10,321 89	2,064 38
	1931	91,447 58	8,042 47	99,490 05	19,898 01
Chatham	1930	6,730 03	4,641 34	11,371 37	2,274 28
	1931	6,295 13	3,371 40	9,666 53	1,933 30
Galt	1930	642 50	3,513 09	4,155 59	831 12
	1931	643 25	4,121 57	4,764 82	952 96
Guelph	1930	33,017 51	9,175 69	42,193 20	8,438 64
	1931	65,438 12	7,306 58	72,744 70	14,548 94
Hamilton	1930	201,228 50	49,277 91	250,506 41	50,101 28
	1931	21,460 08	29,981 36	51,441 44	10,288 29
Kingston	1930	144,753 73	9,331 23	154,084 96	30,816 99
	1931	9,901 57	4,950 61	14,852 18	2,970 44
Kitchener	1930	3,310 61	9,876 02	13,186 63	2,637 32
	1931	181,352 43	7,529 32	188,881 75	37,776 36
London	1930	1,257 07	18,185 65	19,442 72	3,888 54
	1931	4,419 89	14,008 42	18,428 31	3,685 66
Niagara Falls	1930	1,435 89	5,580 97	7,016 86	1,403 37
	1931	935 47	4,402 21	5,337 68	1,067 53
Ottawa	1930	102,956 37	26,427 34	129,383 71	25,876 74
	1931	57,046 20	16,141 62	73,187 82	14,637 56
Owen Sound	1930	216,035 66	1,229 45	217,265 11	43,453 02
	1931	12,504 55	5,840 04	18,344 59	3,668 92
Peterborough	1930	1,041 12	5,102 59	6,143 71	1,228 74
	1931	143 14	3,665 26	3,808 40	761 68
Sarnia	1930	274 96	2,042 73	2,317 69	463 54
	1931	503 07	1,582 65	2,085 72	417 14
St. Catharines	1930	390 83	12,067 76	12,458 59	2,491 72
	1931	374 25	6,855 38	7,229 63	1,445 93
St. Thomas	1930	10,195 50	12,438 22	22,633 72	4,526 74
	1931	211,701 05	6,327 81	218,028 86	43,605 77
Stratford	1930	65 76	4,416 46	4,482 22	896 44
	1931	1,519 27	4,940 80	6,460 07	1,292 01
Toronto	1930	1,005,876 42	172,717 45	1,178,593 87	235,718 77
	1931	362,712 21	64,615 03	427,327 24	85,465 45
Welland	1930	719 25	5,229 53	5,948 78	1,189 76
	1931	877 19	2,060 76	2,937 95	587 59
Windsor	1930	1,481 69	6,079 57	7,561 26	1,512 25
	1931	155,331 73	5,664 40	160,996 13	32,199 22
Woodstock	1930	913 62	4,752 54	5,666 16	1,133 23
	1931	7,335 24	2,862 72	10,197 96	2,039 59
Total	....	2,925,926 28	587,830 32	3,513,756 60	702,751 28

EXPENDITURE ON KING'S HIGHWAY CONNECTING LINKS, 1930 AND 1931

Town	Year	Construction	Maintenance	Total Expenditure	Proportion Paid by Towns
		$ c.	$ c.	$ c.	$ c.
Port Credit	1930	....	2,590 23	2,590 23	647 56
	1931	1,242 21	522 87	1,765 08	441 27
Long Branch	1931	434 02	64 05	498 07	124 52
Burlington	1930	(Cr.) 10 20	1,444 82	1,434 62	717 31
	1931	176 17	786 77	962 94	481 47
Dundas	1930	....	696 60	696 60	348 30
	1931	....	626 41	626 41	313 20
Mimico	1930	....	440 73	440 73	220 37
	1931	....	259 62	259 62	129 81
New Toronto	1930	....	189 70	189 70	94 85
	1931	....	387 92	387 92	193 96
Oakville	1930	....	588 73	588 73	294 37
	1931	99 59	352 45	452 04	226 02
Total	....	1,941 79	8,950 90	10,892 69	4,233 01

APPENDIX No. 5

SCHEDULE OF ASSUMPTIONS AND REVERSIONS OF SECTIONS OF THE KING'S HIGHWAY SYSTEM FOR THE YEARS 1930 AND 1931

During the two years the system was extended by assuming 464.81 miles, less 40.55 miles reverted, making a total assumed of 2,893.15 miles. A list of the roads added to the system, together with the mileage and date of designation, also list of roads and mileage reverted from the system, is as follows:—

King's Highways Assumed in 1930

County	Date of Designation	Municipality	Mileage	Total Mileage
Dufferin	12th of March, 1930	Mono Township	0.42	
	12th of March, 1930	Amaranth Township	4.30	
	12th of March, 1930	Garafraxa E. Township	7.11	
	12th of March, 1930	E. Luther Township	2.66	14.49
York	19th of March, 1930	North York Township	0.50	0.50
Huron	12th of March, 1930	Hullett Township	9.38	
	12th of March, 1930	Morris Township	5.92	
	12th of March, 1930	Wawanosh Township	6.35	
	12th of March, 1930	Turnberry Township	4.22	25.87
Wellington	26th of November, 1930	Palmerston Town	0.64	
	12th of March, 1930	W. Luther Township	3.26	
	12th of March, 1930	Garafraxa W. Township	3.71	
	12th of March, 1930	Arthur Village	0.19	7.80
Welland	12th of March, 1930	Thorold Township	1.63	
	12th of March, 1930	Pelham Township	4.46	
	4th of June, 1930	Thorold Township	2.51	8.60
Lincoln	12th of March, 1930	Grimsby S. Township	10.14	
	12th of March, 1930	Gainsborough Township	10.04	
	4th of June, 1930	Gainsborough Township	3.04	23.22
Brant	4th of June, 1930	Paris Town	0.38	
	24th of September, 1930	Dumfries S. Township	2.12	
	24th of September, 1930	Brantford Township	2.12	
	4th of June, 1930	Brantford Township	3.50	
	4th of June, 1930	Dumfries S. Township	6.38	
	18th of June, 1930	Dumfries S. Township	3.87	18.37
Wentworth	12th of March, 1930	Binbrook Township	3.64	
	12th of March, 1930	Saltfleet Township	2.82	
	12th of March, 1930	Glanford Township	0.93	
	12th of March, 1930	Barton Township	3.35	
	26th of November, 1930	Saltfleet Township	3.90	
	18th of June, 1930	Beverly Township	7.91	22.55
Bruce	12th of March, 1930	Culross Township	9.15	
	12th of March, 1930	Greenock Township	0.64	9.79
Waterloo	4th of June, 1930	Dumfries N. Township	3.69	3.69
Elgin	11th of May, 1930	Yarmouth Township	6.39	
	11th of May, 1930	Southwold Township	0.23	6.62
Oxford	4th of June, 1930	Tillsonburg Town	0.67	
	12th of March, 1930	Dereham Township	10.50	
	12th of March, 1930	Oxford W. Township	2.30	13.47
Essex	11th of June, 1930	Tilbury N. Township	8.01	
	11th of June, 1930	Rochester Township	6.16	
	11th of June, 1930	Maidstone Township	8.33	
	11th of June, 1930	Sandwich E. Township	2.92	
	11th of June, 1930	Sandwich S. Township	2.92	28.34
Lambton	13th of August, 1930	Wyoming Village	0.10	0.10
Peel	31st December, 1930	Brampton Town	0.34	0.34
Perth	13th of August, 1930	Mitchell Town	0.25	0.25
Prescott	26th of November, 1930	Hawkesbury W. Township	8.50	8.50
Hastings	9th of July, 1930	Sidney Township	11.80	
	17th of September, 1930	Marmora Township	10.06	
	17th of September, 1930	Rawdon Township	0.56	
	17th of September, 1930	Huntingdon Township	3.16	
	17th of September, 1930	Madoc Township	1.03	26.61
Glengarry	26th of November, 1930	Charlottenburg Township	5.17	
	26th of November, 1930	Lancaster Township	5.85	
	26th of November, 1930	Kenyon Township	4.29	
	26th of November, 1930	Lochiel Township	10.74	26.05

King's Highways Assumed in 1930—Continued

County	Date of Designation	Municipality	Mileage	Total Mileage
Peterborough	17th of September, 1930	Otonabee Township	12.25	
	17th of September, 1930	Asphodel Township	10.09	
	17th of September, 1930	Dummer Township	0.86	
	17th of September, 1930	Belmont Township	9.91	33.11
Northumberland	9th of July, 1930	Seymour Township	5.30	
	9th of July, 1930	Brighton Township	12.56	
	9th of July, 1930	Percy Township	1.08	18.94
Lennox and Addington	14th of January, 1930	Napanee Town	0.01	0.01
				297.22

Reversions from January 1st, 1930 to December 31st, 1930

County	Municipality	Year	Mileage	Total Mileage
Leeds	Bastard Township	1930	2.58	
	Kitley Township	1930	0.93	
	Elmsley S. Township	1930	0.19	3.70
Welland	Humberstone Township	1930	3.50	3.50
Simcoe	Oro Township	1930	0.14	
	Oro Township	1930	0.15	
	Oro Township	1930	0.23	
	Oro Township	1930	0.20	
	Oro Township	1930	0.12	
	Orillia Township	1930	0.78	
	Sunnidale Township	1930	0.35	
	Nottawasaga Township	1930	0.35	
	Flos Township	1930	1.26	3.58
Carleton	Goulbourn Township	1930	0.36	0.36
Lanark	Beckwith Township	1930	0.09	0.09
Wentworth	Hamilton City	1930	1.17	1.17
Middlesex	Biddulph Township	1930	0.30	
	Biddulph Township	1930	0.38	
	Biddulph Township	1930	0.12	0.80
York	Markham Township	1930	0.11	
	Markham Township	1930	0.22	
	Markham Township	1930	0.14	
	Markham Township	1930	0.37	
	Markham Township	1930	0.16	
	Markham Township	1930	0.10	
	Markham Township	1930	0.04	
	Markham Township	1930	0.20	1.34
Lambton	Dawn Township	1930	0.27	
	Enniskillen Township	1930	0.33	
	Dawn Township	1930	0.30	
	Dawn Township	1930	0.20	
	Enniskillen Township	1930	0.28	
	Enniskillen Township	1930	0.11	
	Plympton Township	1930	0.30	1.79
Ontario	Pickering Township	1930	0.03	
	Pickering Township	1930	0.10	
	Brock Township	1930	0.44	0.57
Grey	Collingwood Township	1930	0.37	
	Collingwood Township	1930	1.02	
	Collingwood Township	1930	1.73	3.12
Grenville	Edwardsburg Township	1930	0.63	0.63
Renfrew	Westmeath Township	1930	2.28	2.28
Wellington	Minto Township	1930	0.01	0.01
Perth	Blanshard Township	1930	0.08	
	Wallace Township	1930	0.03	
	Elma Township	1930	0.03	
	Logan Township	1930	0.08	0.22
Kent	Howard Township	1930	0.20	
	Howard Township	1930	0.20	
	Howard Township	1930	0.19	
	Romney Township	1930	0.47	
	Harwich Township	1930	0.11	1.17
Hastings	Sidney Township	1930	1.60	1.60
				25.93

King's Highways Assumed in 1931

County	Date of Designation	Municipality	Mileage	Total Mileage
Hastings	26th of August, 1931	Sidney Township	4.25	4.25
Simcoe	5th of August, 1931	Tay Township	14.49	
	5th of August, 1931	Medonte Township	9.20	
	5th of August, 1931	Orillia N. Township	0.20	
	5th of August, 1931	Orillia S. Township	3.90	
	27th of May, 1931	Adjala Township	2.97	
	27th of May, 1931	Tecumseth Township	4.09	
	27th of May, 1931	Essa Township	4.09	
	27th of May, 1931	Tossorontio Township	2.87	41.81
Ontario	12th of August, 1931	Mara Township	0.06	0.06
Northumberland	19th of August, 1931	Murray Township	0.35	0.35
Bruce	19th of August, 1931	Kincardine Town	0.34	0.34
Essex	16th of December, 1931	Sandwich W. Township	4.36	
	16th of December, 1931	Anderdon Township	5.36	
	16th of December, 1931	Malden Township	9.14	
	16th of December, 1931	Colchester S. Township	8.64	
	16th of December, 1931	Gosfield S. Township	7.76	
	16th of December, 1931	Mersea Township	2.50	
	20th of May, 1931	Sandwich E. Township	0.67	
	20th of May, 1931	Sandwich W. Township	0.68	39.11
Victoria	28th of October, 1931	Omemee Village	0.35	
	1st of July, 1931	Ops Township	5.81	
	1st of July, 1931	Fenelon Township	2.83	
	1st of July, 1931	Verulam Township	12.50	
	1st of July, 1931	Ops Township	3.83	
	1st of July, 1931	Fenelon Township	10.26	35.58
Peel	7th of October, 1931	Toronto Township	3.00	3.00
York	7th of October, 1931	Etobicoke Township	3.99	
	21st of January, 1931	North York Township	1.24	5.23
Oxford	27th of May, 1931	Zorra E. Township	12.91	
	29th of July, 1931	Tillsonburg Town	0.80	13.71
Norfolk	1st of July, 1931	Middleton Township	2.47	
	11th of March, 1931	Waterford Village	0.25	2.72
Elgin	21st of January, 1931	Port Stanley Village	0.78	
	1st of July, 1931	Bayham Township	10.15	10.93
Dufferin	27th of May, 1931	Mulmur Township	3.83	
	27th of May, 1931	Mono Township	3.82	7.65
Perth	27th of May, 1931	Easthope S. Township	2.85	2.85
Total				167.59

Reversions from January 1st, 1931 to December 31st, 1931

County	Municipality	Year	Mileage	Total Mileage
Simcoe	Barrie Town	1931	0.83	
	Nottawasaga Township	1931	0.44	1.27
Carleton	Fitzroy Township	1931	1.01	
	Goulborn Township	1931	0.20	
	Fitzroy Township	1931	0.26	
	Fitzroy Township	1931	0.16	1.63
Renfrew	McNab Township	1931	0.08	0.08
Hastings	Sidney Township	1931	5.25	5.25
Norfolk	Delhi Village	1931	0.38	0.38
Oxford	Ingersoll Town	1931	0.60	0.60
Peel	Toronto Gore Township	1931	1.30	1.30
Kent	Tilbury E. Township	1931	1.31	
	Raleigh Township	1931	0.90	2.21
Northumberland	Murray Township	1931	0.55	0.55
York	Long Branch Village	1931	1.35	1.35
Total				14.62

APPENDIX No. 6

GROWTH OF COUNTY ROAD EXPENDITURES AND PROVINCIAL GRANTS

Year work was done	Number of Counties	Expenditure	Government Grant
1903	4	$166,149 06	$55,383 02
1904	7	291,085 42	97,028 48
1905	7	179,593 62	59,864 53
1906	10	247,102 37	82,367 45
1907	14	383,518 86	127,839 62
1908	15	429,393 57	143,131 16
1909	16	440,374 08	146,791 36
1910	17	553,312 61	184,437 54
1911	19	712,072 52	237,357 50
1912	20	898,631 18	299,543 69
1913	20	847,684 15	282,561 35
1914	20	785,521 93	261,840 61
1915	20	811,540 05	270,513 34
1916	23	955,447 19	327,663 76
1917	32	1,388,341 87	483,621 32
1918	36	2,226,899 70	815,440 01
1919	37	5,714,937 19	2,623,719 24
1920	37	7,956,863 72	3,626,418 08
1921	37	11,078,288 39	5,119,882 26
1922	37	9,162,491 79	4,258,339 83
1923	37	7,403,509 96	3,418,523 07
1924	37	6,861,451 62	3,214,321 50
1925	37	6,608,431 04	3,222,678 10
1926	37	5,838,445 12	2,913,660 96
1927	37	7,424,464 85	3,706,719 88
1928	..	8,784,420 42	4,360,222 86
1929	..	9,212,758 04	4,591,110 16
1930	..	8,929,424 27	4,463,527 11
1931	..	7,265,350 65	3,625,860 66
Totals to date	..	$113,557,505 24	$53,020,368 45

APPENDIX No. 7

COUNTY ROAD MILEAGE AND EXPENDITURE

From Inception of County Road Systems up to December 31st, 1931
Provincial Subsidies on 1931 Expenditure being paid in 1932

County	Year of Establishment of System	Road Mileages			Total Approved Expenditure to end of 1931	Total Government Grant
		County Roads	County Suburban Roads	Total		
Brant	1917	72.0	21.5	93.5	$2,002,801 44	$ 993,166 58
Bruce	1917	300.5	....	300.5	2,639,422 43	1,309,690 49
Carleton	1909	147.3	102.3	249.6	6,242,747 06	2,914,295 84
Dufferin	1918	136.0	....	136.0	1,198,675.09	562,774 91
Elgin	1917	222.3	9.3	231.6	2,169,247 08	1,008,909 17
Essex	1916	197.4	48.5	245.9	5,733,247 63	2,811,012.09
Frontenac	1906	112.0	36.5	148.5	1,303,990 60	585,986 29
Grey	1918	179.3	44.0	223.3	2,952,921 62	1,453,583.96
Haldimand	1911	157.0	....	157.0	2,168,074 31	982,696 75
Halton	1907	119.0	....	119.0	1,998,788 32	903,448.76
Hastings	1904	348.4	4.9	353.3	2,886,738.28	1,316,228.58
Huron	1917	363.7	....	363.7	2,290,824.02	1,082,146 77
Kent	1917	273.0	12.0	285.0	3,584,146 39	1,788,404 95
Lambton	1918	263.0	7.0	270.0	2,292,048.54	1,097,026.67
Lanark	1903	237.5	6.5	244.0	2,515,935 14	1,180,053 83
Leeds and Grenville	1910	261.6	5.4	267.0	3,286,170 12	1,496,377 73
Lennox and Addington	1906	164.5	....	164.5	2,202,081 60	1,055,716 50
Lincoln	1904	123.3	9.7	133.0	3,718,675 03	1,596,150 67
Middlesex	1906	361.6	28.0	389.6	3,823,904 55	1,727,642 10
Norfolk	1917	213.5	....	213.5	2,672,604 64	1,250,629.13
Northumberland and Durham	1918	244.5	....	244.5	2,878,909 24	1,411,168 90
Ontario	1918	177.7	13.3	191.0	1,591,817.20	762,274 57
Oxford	1904–7	197.0	4.5	201.5	2,588,069 29	1,121,336 36
Peel	1906	140.8	....	140.8	2,337,139 10	1,030,451 65
Perth	1907	149.3	9.0	158.3	1,493,640 90	661,860 57
Peterborough	1919	111.5	31.0	142.5	830,470.91	390,595.09
Prescott and Russell	1917	198.0	....	198.0	4,047,709.89	1,796,408.87
Prince Edward	1907	124.0	....	124.0	1,815,610 25	818,827 32
Renfrew	1918	215.5	....	215.5	2,916,358.21	1,414,383 23
Simcoe	1903	233.5	....	233.5	3,572,783 57	1,631,347 14
Stormont, Dundas and Glengarry	1917	322.0	....	322.0	4,919,628 90	2,386,292 33
Victoria	1917	169.0	....	169.0	2,178,708 20	1,078,368 36
Waterloo	1908	140.4	13.1	153.5	3,025,351 35	1,466,076 79
Welland	1912	114.6	17.0	131.6	4,361,804 01	2,001,550 22
Wellington	1903	287.0	13.0	300.0	3,199,855.35	1,473,328 35
Wentworth	1902	104.8	43.5	148.3	3,529,746 73	1,580,237 52
York	1911	46.5	232.0	278.5	10,586,858 25	4,879,919 41
Totals	....	7,229.0	712.0	7,941.0	$113,557,505 24	$53,020,368 45

APPENDIX

SUMMARY

Statement of Work and

Name of County	Work Done							
	Miles Graded	Miles Stoned		Miles Gravelled	Tile Drain Rods	Bridges	Pipe and Tile Culverts	Other Culverts
Brant	6.21	......	Asp. Conc. 2.63	8.39	....	....	20	2
Bruce	18.00	1.00		18.00	....	4	53	5
Carleton	22.81	1.00	Bit. Mac. 6.85 Asp. Conc. 3.50	10.50	183	3	128	7
Dufferin	15.75	......	......	14.25	34	6	48	1
Elgin	8.31	3.37		4.62	752	3	21	9
Essex	13.78	1.50	Asp. Conc. 6.05 Cem. Conc. 4.61	11.00	297	8	23	8
Frontenac	7.20	4.37	Bit. Mac. 2.50	0.25	....	....	2	2
Grey	13.30	......	Bit. Mac. 0.75	12.55	....	1	19	....
Haldimand	37.30	22.50	Asp. Conc. 5.30	7.00	....	....	68	....
Halton	24.01	......	Bit. Mac. 1.40 Cem. Conc. 8.31	0.25	65	1	20	1
Hastings	13.25	9.50	Asp. Conc. 1.00 Cem. Conc. 2.25	5.75	....	3	77	1
Huron	5.00	......	......	5.00	....	....	....	4
Kent	33.25	2.50	Cem. Con. 10.25	19.25	350	....	108	....
Lambton	23.75	3.00		18.75	80	3	37	17
Lanark	3.50	7.40	Bit. Mac. 1.90	....	....	2	6	6
Leeds and Grenville	11.20	3.00	Bit. Mac. 3.40	4.80	....	....	15	3
Lennox and Addington	11.47	2.00	Asp. Conc. 4.34 Bit. Mac. 2.33	....	....	3	54	....
Lincoln	14.41	19.86	Cem. Conc. 0.33	....	29	1	67	17
Middlesex	12.00	......	Cem. Con. 11.20	....	54	1	74	2
Norfolk	9.65	......	Bit. Mac. 1.30	7.90	128	1	45	1
Northumberland and Durham	34.79	......	Bit. Mac. 0.50 Asp. Conc. 15.04	50.62	....	8	100	1
Ontario	13.21	2.12		9.57	....	4	29	4
Oxford	16.30	......	Bit. Mac. 1.32	17.40	80	1	17	....
Peel	5.50	......	Asp. Conc. 4.75	1.05	....	13	47	5
Perth	23.40	4.55	Bit. Mac. .56	28.29	218	....	39	4
Peterborough	3.50	......	......	3.50	....	....	16	5
Prescott and Russell	13.33	......	......	7.50	106	....	....	15
Prince Edward	24.01	......	Cem. Conc. 9.00 Asp. Conc. 10.61	1.00	14	....	65	4
Renfrew	8.20	2.80	Bit. Mac. 2.55	4.10	....	2	32	9
Simcoe	16.05	......	......	16.05	....	1	27	2
Stormont, Dundas and Glengarry	17.50	12.00	Bit. Mac. 5.00 Asp. Conc. 4.75	....	....	....	....	....
Victoria	5.80	3.95		2.31	....	1	43	1
Waterloo	10.23	......	Concrete 1.64 Asp. Conc. 1.60	8.62	....	2	46	6
Welland	14.27	......	Cem. Conc. 9.24 Asp. Conc. 5.03	....	....	3	12	8
Wellington	14.00	......	Cem. Conc. 7.00	7.16	120	....	91	7
Wentworth	16.62	13.75	Asp. Conc. 3.37	4.75	68	....	48	6
York	37.49	6.74	Asp. Conc. 10.05 Bit. Mac. 8.48	17.46	8,024	4	39	7
Totals	578.35	307.60*		327.64	10,602	79	1,536	170

*Includes:
Waterbound Macadam......126.91 miles.
Bituminous Macadam....... 38.84 "
Cement Concrete........... 63.83 "
Asphaltic Concrete......... 78.02 "

No. 8

1930

Expenditure on Country Roads

Approved Expenditure

Roads and Culverts	Bridges	Machinery and Repairs	Urban Improvement	Purchase of Gravel Pits	Superintendence	Total Construction	Maintenance	Total Approved Expenditure	Subsidy 50%
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
89,607 37	....	24,062 20	6,969 38	....	5,444 11	126,083 06	34,738 53	160,821 59	80,410 80
88,682 57	17,748 68	27,233 77	27,259 84	....	4,684 95	165,609 81	69,717 64	235,327 45	117,663 72
238,175 03	6,537 84	10,375 25	....	....	11,116 55	266,204 67	78,039 37	344,244 04	172,122 02
15,947 69	9,778 39	7,124 71	62 39	....	4,314 12	37,227 30	39,580 57	76,807 87	37,677 45
42,932 44	32,023 47	12,080 41	....	11,400 00	3,291 31	101,727 63	70,988 25	172,715 88	86,357 94
296,610 62	31,074 21	15,751 81	14,063 60	1,000 00	4,244 28	362,744 52	78,645 19	441,389 71	220,694 85
41,786 49	....	2,507 33	....	....	2,126 04	46,419 86	47,214 59	93,634 45	46,817 23
63,857 73	4,505 74	5,625 26	66,052 03	....	4,591 12	144,631 88	53,600 84	198,232 72	99,116 36
165,060 89	810 01	2,187 76	....	....	4,114 89	172,173 55	94,664 98	266,838 53	133,419 27
75,974 05	863 10	6,501 12	....	....	5,695 18	89,033 46	35,674 89	124,708 35	62,354 17
134,574 49	3,420 81	9,418 34	....	300 00	3,560 25	151,273 89	65,284 34	216,558 23	108,279 11
15,688 92	2,782 37	12,857 69	11,275 00	672 75	5,331 28	48,608 01	87,318 48	135,926 49	67,963 24
64,899 29	....	18,817 11	5,086 91	....	5,439 29	94,242 60	148,104 30	242,346 90	121,173 45
49,418 20	8,239 06	14,421 69	....	....	4,126 21	76,205 16	102,932 41	179,137 57	89,568 79
64,681 49	8,855 97	7,950 72	....	....	5,001 97	86,490 15	90,647 38	177,137 53	88,568 77
111,216 01	....	966 51	57,754 75	....	4,296 43	174,333 70	40,491 01	214,724 71	107,362 36
223,184 78	19,103 48	873 78	....	....	3,749 93	246,911 97	46,504 70	293,416 67	146,708 33
188,561 34	1,865 00	14,906 94	5,222 39	....	5,807 57	216,363 24	55,251 67	271,614 91	135,807 46
169,476 31	28,854 75	17,724 51	....	....	5,187 20	221,242 77	90,793 92	312,036 69	156,018 36
72,449 62	3,276 45	9,196 27	20.747 06	....	5,642 81	111,312 21	92,832 97	204,145 18	102,072 59
349,154 05	29,013 16	10,506 27	....	....	4,661 67	393,335 15	28,062 42	421,397 57	210,698 78
38,874 68	25,357 14	3,648 51	3,022 29	....	5,289 89	76,192 51	44,062 98	120,255 49	60,127 74
58,262 17	12,113 47	21,963 68	33,706 42	....	5,125 29	131,171 03	61,108 05	192,279 08	96,139 54
117,573 05	89,074 95	1,955 90	....	....	5,145 87	213,749 77	55,250 21	268,999 98	134,499 99
76,121 17	1,494 06	6,446 73	....	....	3,958 83	88,020 79	17,354 00	105,374 79	52,687 39
19,306 92	....	9,417 97	....	....	3,100 00	31,824 89	50,694 88	82,519 77	41,259 88
21,517 20	....	160 34	6,603 86	....	5,011 58	33,292 98	56,998 68	90,291 66	45,145 83
304 229 30	....	2.938 35	6,971 13	....	3,700 72	317,839 50	45,396 53	363,236 03	181,618 01
81,973 01	18,252 62	3,567 37	....	....	8,182 16	111,975 16	49,381 32	161,356 48	80,678 24
75,609 44	4,007 65	11,816 99	39,241 85	....	3,879 69	134,555 62	89,803 02	224,358 64	112,179 32
89,214 22	....	4,852 87	26,364 55	....	6,393 67	126,825 31	92,843 29	219,668 60	109,834 30
37,083 94	2,358 45	5,338 46	28,921 67	....	4,950 42	78,652 94	31,411 31	110,064 25	55,032 12
145,028 09	49,426 66	18,016 29	5,464 60	790 00	5,826 61	224,552 25	74,795 08	299,347 33	149,673 67
290,660 90	13,218 02	1,355 41	76,929 43	....	6,917 93	389,081 69	71,343 16	460.424 85	230,212 43
199,913 97	904 26	6,467 28	7,400 85	....	4,164 75	218,851 11	82,738 61	301,589 72	150,794 86
168,200 51	....	10,476 47	....	....	6,353 93	185,030 91	71,901 26	256,932 17	128,466 08
662,738 46	64,278 28	4,957 24	8,493 01	....	8.846 47	749,313 46	140,248 93	889,562 39	444,322 66
4,948,246 42	489,238 05	344,469 31	457,613 01	14,162 75	189,274 97	6,443,004 51	2,486,419 76	8,929,424 27	4,463,527 11

APPENDIX

SUMMARY

Schedule of Expenditure on Maintenance

For the period beginning January 1st, 1930,

Name of County	Brushing and Weed Cutting	Ditching	Grading	Dragging	Culverts (Repairs only)
	$ c.	$ c.	$ c.	$ c.	$ c.
Brant	1,370 62	916 71	....	6,671 25	327 66
Bruce	3,132 70	515 61	1,800 35	14,199 73	674 77
Carleton	4,208 60	628 68	1,613 57	2,874 93	1,136 34
Dufferin	1,341 23	392 92	3,667 27	4,893 95	172 43
Elgin	2,545 34	728 64	8,968 32	6,496 15	767 67
Essex	5,766 92	3,745 43	945 95	15,516 36	346 37
Frontenac	848 62	....	210 80	877 55	631 73
Grey	1,419 05	545 23	3,500 34	9,836 55	659 32
Haldimand	2,075 65	2,265 50	4,205 22	3,313 30	1,148 12
Halton	1,136 50	371 87	34 17	2,755 65	168 27
Hastings	2,589 30	....	9,685 97	9,617 78	1,415 23
Huron	4,894 22	2,657 30	1,788 35	13,733 00	2,403 16
Kent	5,325 73	23,843 72	2,784 48	16,967 15	4,544 70
Lambton	3,790 03	4,422 86	4,065 21	24,136 75	3,072 47
Lanark	2,867 07	9,616 43	7,279 52	1,693 40	5,996 43
Leeds and Grenville	1,513 29	44 00	289 56	2,279 83	358 39
Lennox and Addington	1,194 55	52 50	62 05	33 37	212 28
Lincoln	3,535 02	1,495 34	652 30	1,198 86	669 35
Middlesex	3,776 43	1,289 97	3,541 15	14,643 06	1,923 99
Norfolk	3,943 25	29 00	2,302 57	5,531 59	1.814 52
Northumberland and Durham	2,245 86	1,195 86	966 38	7,237 29	547 13
Ontario	1,898 37	547 92	1,056 75	8,180 95	338 25
Oxford	2,820 77	807 09	626 91	10,582 37	232 20
Peel	2,236 10	445 62	441 25	4,468 76	353 85
Perth	1,671 53	196 95	1,319 51	6,095 05	270 80
Peterborough	1,673 00	1,071 85	1,586 05	10,535 80	408 92
Prescott and Russell	2,487 78	1,243 11	1,160 11	831 53	122 45
Prince Edward	1,206 11	98 00	975 20	25 00	482 00
Renfrew	991 69	....	3,305 43	1,597 10	1,377 45
Simcoe	2,108 63	4,487 30	5,946 62	19,168 27	269 59
Stormont, Dundas and Glengarry	3,429 65	2,899 94	4,174 25	74 00	3,554 08
Victoria	1,389 30	150 01	32 40	7,566 78	228 38
Waterloo	1,868 20	364 33	6,250 01	1,232 05	780 93
Welland	5,354 65	1,245 00	1,158 60	60 60	1.085 30
Wellington	3,156 43	1,439 19	3,470 81	16,608 22	446 67
Wentworth	3,277 00	4,527 38	5,520 83	6,140 23	252 34
York	6,020 65	4,849 19	3,229 33	3,265 17	20 00
Totals	101,109 84	79,130 45	98,617 59	260,939 38	39,213 54

No. 9

1930

and Repair on County Roads

and ending December 31st, 1930

Bridges Repairs (only)	Re-surfacing	Oiling, etc.	Snow Roads	Wire Fence Bonus and Guard Rails	Urban Improvement	Total Expenditure	Government Grant, 50%
205 50	10,805 15	....	2,186 95	488 54	11,766 15	34,738 53	17,369 26
2,396 86	28,633 77	1,497 51	9,408 49	....	7,457 85	69,717 64	34,858 82
534 05	28,487 55	12,700 59	9,539 26	2,394 66	13,921 14	78,039 37	39,019 68
1,297 99	20,919 13	815 75	3,726 60	25 07	2,328 23	39,580 57	19,709 08
887 32	36,883 42	970 54	5,996 21	....	6,744 64	70,988 25	35,494 12
561 01	25,512 31	8,095 68	3,504 84	....	14,650 32	78,645 19	39,322 60
....	20,484 57	20,288 53	3,872 79	....	....	47,214 59	23,607 29
1,422 44	26,471 19	6,072 74	2,978 43	695 55	....	53,600 84	26,800 40
402 80	69,848 95	4,660 44	1,510 00	....	5,235 00	94,664 98	47,332 49
1,892 05	16,446 00	965 71	4,099 16	667 99	7,137 52	35,674 89	17,837 44
3,540 34	30,972 78	1,950 22	5,512 72	....	....	65,284 34	32,642 17
6,516 64	30,330 51	16,456 36	7,668 70	870 24	....	87,318 48	43,659 24
21,457 27	61,442 46	....	5,114 91	1,993 62	4,630 26	148,104 30	74,052 15
254 25	46,938 34	7,949 14	3,409 72	750 58	4,143 06	102,932 41	51,466 21
1,052 58	24,755 79	17,670 06	520 01	642 80	18,553 29	90,647 38	45,323 69
1,298 05	32,878 90	1,654 67	122 85	51 47	....	40,491 01	20,245 51
423 05	28,925 80	12,678 00	2,923 10	....	....	46,504 70	23,252 35
1,116 02	16,271 83	23,455 40	5,828 79	299 60	729 16	55,251 67	27,625 84
5,460 24	45,197 40	1,892 54	13,069 14	....	....	90,793 92	45,396 96
497 89	75,158 68	60 45	2,969 58	389 19	136 25	92,832 97	46,416 49
1,799 93	8,944 42	589 38	3,862 91	673 26	....	28,062 42	14,031 22
1,991 47	23,122 46	3,438 20	2,430 41	1,058 20	....	44,062 98	22,031 49
568 75	31,130 06	7,024 29	3,600 04	55 17	3,660 40	61,108 05	30,554 03
3,375 16	30,938 58	10,398 06	1,550 61	1,042 22	....	55,250 21	27,625 10
5 65	1,003 85	....	3,550 66	348 68	2,891 32	17,354 00	8,677 00
7,489 78	21,867 57	3,125 85	1,214 30	....	1,721 76	50,694 88	25,347 44
1,821 25	13,826 55	33,249 65	2,256 25	....	....	56,998 68	28,499 34
634 58	9,818 55	27,112 92	3,002 75	2,041 42	....	45,396 53	22,698 26
516 50	14,381 42	10,694 51	301 40	127 35	16,088 47	49,381 32	24,690 67
6,061 92	45,499 93	....	5,675 46	585 30	....	89,803 02	44,901 51
875 04	27,814 22	47,932 08	2,090 03	....	....	92,843 29	46,421 65
724 56	13,615 17	4,265 66	2,824 14	614 91	....	31,411 31	15,705 66
4,365 53	18,402 36	1,844 08	6,112 34	549 21	33,026 04	74,795 08	37,397 54
725 34	9,055 67	38,456 99	5,466 75	....	8,734 26	71,343 16	35,671 58
2,516 26	40,884 80	4,893 11	9,273 28	49 84	....	82,738 61	41,369 30
790 73	19,558 54	18,497 21	9,122 80	....	4,214 20	71,901 26	35,950 63
1,631 58	103,230 65	....	18,002 36	....	....	140,248 93	70,124 47
87,110 38	1,110,459 33	351,356 32	174,298 74	16,414 87	167,769 32	2,486,419 76	1,243,128 68

APPENDIX

Summary of Expenditure

The following schedule shows in detail the work and approved expenditure on Township

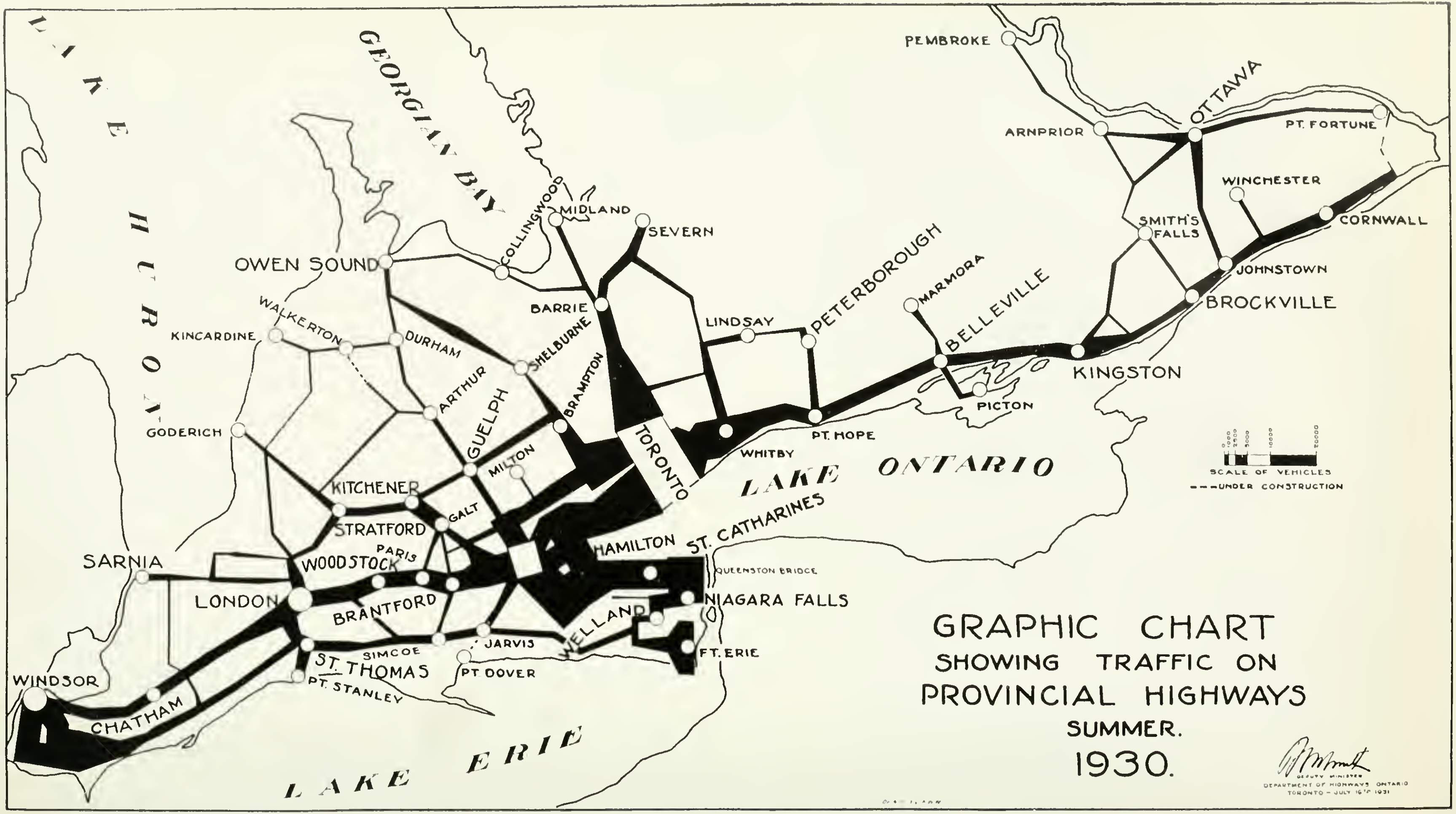
Year	No. of Twps.	General Expenditure				
		Roads and Culverts	Bridges	Maintenance	Machinery	Purchase of Gravel Pits
		$ c.	$ c.	$ c.	$ c.	$ c.
1920......	172	432,618 62	270,596 52	828,027 27	91,704 24	8,513 47
1921......	294	844,829 42	501,650 14	1,888,048 75	142,316 18	12,420 81
1922......	312	774,336 84	374,158 51	1,832,200 75	87,936 37	23,573 06
1923......	315	665,101 32	420,451 17	1,720,273 23	82,020 62	30,453 57
1924......	320	725,631 40	334,348 63	1,861,036 56	95,758 21	12,727 08
1925......	272	930,129 31	249,633 82	1,720,775 30	121,874 98	7,886 11
1926......	295	1,379,063 62	282,968 54	2,154,503 96	188,804 36	33,251 25
1927......	307	1,820,991 31	322,023 33	2,583,130 89	226,160 80	23,918 64
1928......	324	2,153,376 26	259,421 34	2,690,025 09	272,743 58	17,539 10
1929......	337	2,275,479 10	695,807 95	2,933.846 90	278,527 99	32,756 55
1930......	341	2,295,855 44	369,015 98	2,684,547 12	241,648 16	35,279 17
	Totals	14,297,412 64	4,080,075 93	22,896,415 82	1,829,495 49	238,318 81

No. 10

on Township Roads

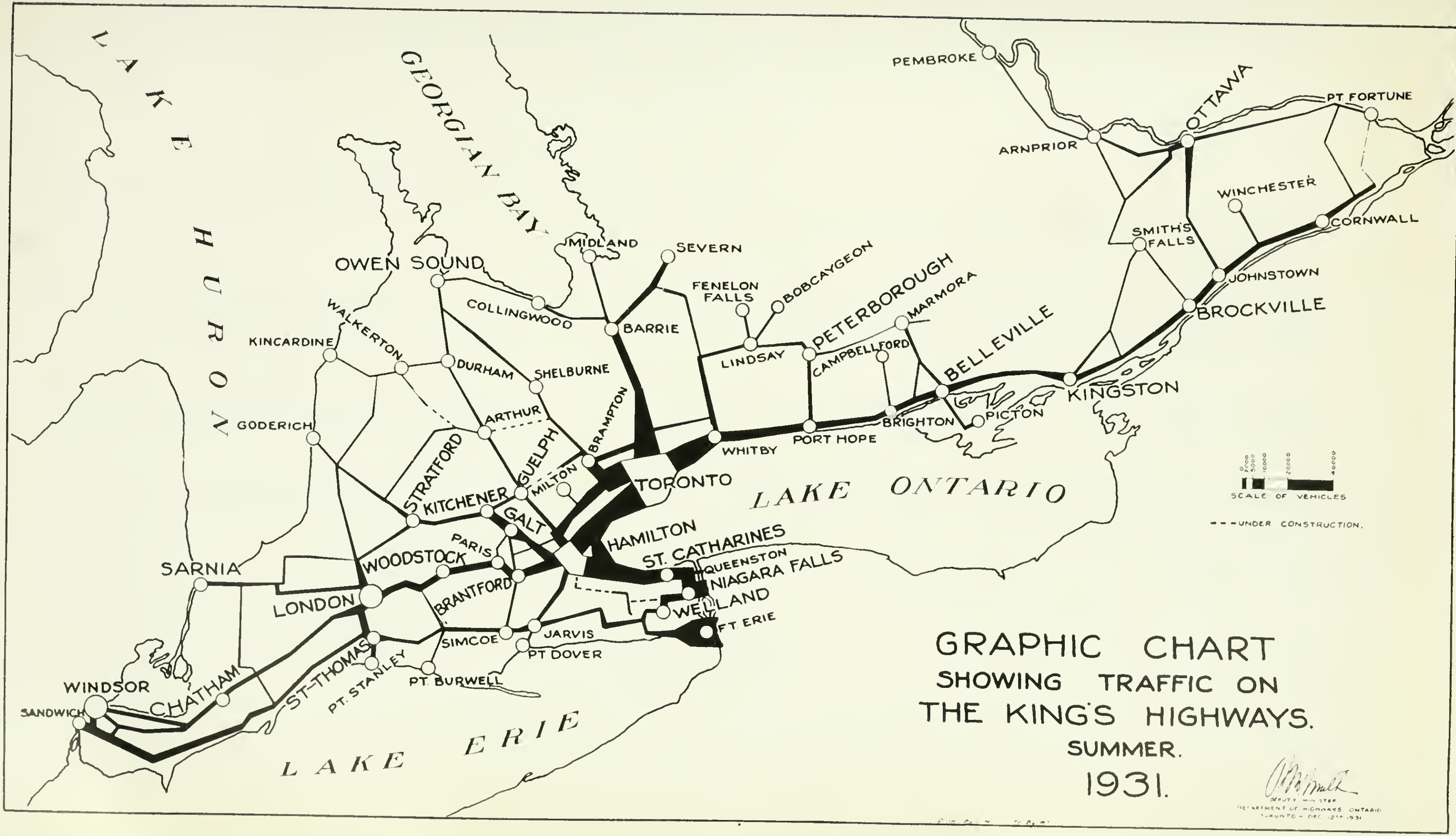
Roads to the end of 1929, under the provisions of The Highway Improvement Act.

		Superintendence		Total Approved Expenditure	Total Government Grant
Approved Expenditure	Government Grant	Approved Expenditure	Government Grant		
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1,631,460 12	326,291 95	36,703 60	14,681 43	1,668,163 72	340,973 38
3,389,265 30	677,852 90	76,585 03	30,634 01	3,465,850 33	708,486 91
3,092,205 53	618,440 93	77,901 44	31,160 55	3,170,106 97	649,601 47
2,918,299 91	583,659 65	75,945 51	30,378 23	2,994,245 42	614,037 88
3,029,501 88	605,900 35	82,599 41	33,039 76	3,112,101 29	638,940 11
3,030,299 52	906,559 91	164,146 58	82,073 38	3,194,446 10	988,633 29
4,038,591 73	1,219,741 01	194,317 68	97,405 16	4,232,909 41	1,317,146 17
4,976,224 97	1,504,718 50	228,349 52	114,451 24	5,204,574 49	1,619,169 74
5,393,105 37	1,673,180 47	258,554 60	129,460 17	5,651,659 97	1,802,640 64
6,216,418 49	1,960,756 75	288,782 35	144,984 66	6,505,200 84	2,105,741 41
5,626,345 87	2,304,954 18	291,311 41	146,379 92	5,917,657 28	2,451,334 10
43,341,718 69	12,382,056 59	1,775,197 13	854,648 51	45,116,915 82	13,236,705 10


LAKE HURON
GEORGIAN BAY
LAKE ONTARIO
LAKE ERIE
PEMBROKE
ARNPRIOR
OTTAWA
PT. FORTUNE
WINCHESTER
SMITH'S FALLS
CORNWALL
JOHNSTOWN
BROCKVILLE
KINGSTON
MARMORA
BELLEVILLE
PICTON
PETERBOROUGH
LINDSAY
PT. HOPE
WHITBY
TORONTO
SEVERN
MIDLAND
COLLINGWOOD
BARRIE
OWEN SOUND
WALKERTON
KINCARDINE
DURHAM
SHELBURNE
BRAMPTON
ARTHUR
GUELPH
GODERICH
MILTON
KITCHENER
GALT
STRATFORD
PARIS
WOODSTOCK
SARNIA
LONDON
BRANTFORD
HAMILTON
ST. CATHARINES
QUEENSTON BRIDGE
NIAGARA FALLS
WELLAND
FT. ERIE
JARVIS
SIMCOE
ST. THOMAS
PT. DOVER
PT. STANLEY
WINDSOR
CHATHAM
0
1000
2500
5000
10000
20000
SCALE OF VEHICLES
– – – UNDER CONSTRUCTION

GRAPHIC CHART
SHOWING TRAFFIC ON
PROVINCIAL HIGHWAYS
SUMMER.
1930.

DEPUTY MINISTER
DEPARTMENT OF HIGHWAYS ONTARIO
TORONTO – JULY 16TH 1931



GRAPHIC CHART
SHOWING TRAFFIC ON
THE KING'S HIGHWAYS.
SUMMER.
1931.

LAKE HURON
GEORGIAN BAY
LAKE ONTARIO
LAKE ERIE
PEMBROKE
ARNPRIOR
OTTAWA
PT FORTUNE
WINCHESTER
CORNWALL
SMITH'S FALLS
JOHNSTOWN
BROCKVILLE
KINGSTON
PICTON
BELLEVILLE
MARMORA
CAMPBELLFORD
BRIGHTON
PETERBOROUGH
PORT HOPE
BOBCAYGEON
FENELON FALLS
LINDSAY
WHITBY
SEVERN
MIDLAND
BARRIE
TORONTO
OWEN SOUND
COLLINGWOOD
SHELBURNE
BRAMPTON
MILTON
KINCARDINE
WALKERTON
DURHAM
ARTHUR
GUELPH
GODERICH
STRATFORD
KITCHENER
GALT
HAMILTON
ST. CATHARINES
QUEENSTON
NIAGARA FALLS
WELLAND
FT. ERIE
PARIS
WOODSTOCK
BRANTFORD
SARNIA
LONDON
SIMCOE
JARVIS
PT DOVER
PT. BURWELL
PT. STANLEY
ST-THOMAS
CHATHAM
WINDSOR
SANDWICH
0
2000
5000
10000
20000
40000
SCALE OF VEHICLES
---UNDER CONSTRUCTION.
DEPUTY MINISTER
DEPARTMENT OF HIGHWAYS ONTARIO
TORONTO - DEC 12TH 1931

APPENDIX No. 11

SUMMER SUMMARY

Traffic Census

DAILY AVERAGE

Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
In 1930								
The Total Daily Average on 32 Highways at 197 points was		322,404	117,065	39,024	3,365	3,523	485,381	745,342
The Average Daily Average at each point was...........		1,247	256	138	12	19	1,672	2,531
In 1931								
The Total Daily Average on the same 32 Highways as in 1930, and at the same 197 points was................		322,483	94,804	41,775	3,190	3,280	465,532	721,999
The Average Daily Average at each point was...........		1,302	224	163	11	19	1,719	2,692
Increase or Decrease Per cent. over 1930, was...........		Increase 4%	Decrease 12%	Increase 18%	Decrease 8%		Increase 3%	Increase 6%

Although the traffic was counted on 35 Highways in 1931, only the same Highways, as those where the traffic was counted in 1930, were taken into consideration for comparative purposes.

The count was taken the second week in July, and the weather was as follows:

1930—4 days fine; 3 days rain. 1931—5 days fine; 2 days rain.

FALL SUMMARY

Traffic Census

DAILY AVERAGE

Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
In 1930								
The Total Daily Average on 34 Highways at 209 points was		273,378	43,154	39,830	2,586	4,322	363,270	629,399
The Average Daily Average at each point was...........		996	124	139	8	24	1,291	2,293
In 1931								
The Total Daily Average on the same 34 Highways as in 1930, and at the same 209 points was................		315,755	42,145	41,730	2,887	3,905	406,422	629,307
The Average Daily Average at each point was...........		1,207	134	156	9	24	1,530	2,415
Increase Percentage over 1930, was..................		21 % Increase	8 % Increase	12 % Increase	13 % Increase	......	19 % Increase	5 % Increase

This count was taken the second week in October and the weather was as follows:
1930—5 days fine; 2 days showery. 1931—6 days fine; 1 day showery.

SUMMER TRAFFIC CENSUS

AVERAGE DAILY AVERAGE

Highway No.	Name of Highway	Number of Stations	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
				Ontario	Foreign					
2	Windsor-Quebec Boundary	37	1930	101,530	47,544	14,030	1,244	741	165,089	237,753
		37	1931	93,832	31,579	12,442	1,118	683	139,654	200,901
		1	1930	2,744	1,285	379	34	20	4,462	6,426
		1	1931	2,536	854	336	30	18	3,774	5,430
3	Windsor-Fort Erie	23	1930	27,406	31,843	3,443	240	297	63,229	105,122
		23	1931	25,917	31,100	3,522	282	259	61,080	102,705
		1	1930	1,192	1,384	150	10	13	2,749	4,571
		1	1931	1,127	1,352	153	12	12	2,656	4,464
4	Port Stanley-Durham	9	1930	12,398	1,500	1,048	41	114	15,101	23,875
		9	1931	12,493	1,400	1,144	53	125	15,215	26,102
		1	1930	1,378	167	116	4	13	1,678	2,653
		1	1931	1,388	156	127	6	14	1,691	2,900
5	Toronto-Highway No. 8 (Paris)	6	1930	22,828	1,949	2,843	88	35	27,743	43,204
		6	1931	23,446	1,507	3,842	98	32	28,925	42,677
		1	1930	3,805	325	474	14	6	4,624	7,201
		1	1931	3,908	251	640	17	5	4,821	7,113
6	Port Dover-Owen Sound	9	1930	12,983	1,133	1,548	102	167	15,933	27,986
		9	1931	11,632	889	1 691	109	134	14,455	24,331
		1	1930	1,443	126	172	11	19	1,771	3,110
		1	1931	1,292	99	188	12	15	1,606	2,703
7	Sarnia-Madoc	19	1930	17,608	1,798	1,990	127	272	21,795	37,138
		19	1931	17,775	1,489	2,010	122	229	21,625	36,821
		1	1930	927	94	105	7	14	1,147	1,955
		1	1931	936	78	106	6	12	1,138	1,938
8	Niagara Falls-Goderich	13	1930	32,312	19,127	4,312	619	174	56,544	83,527
		13	1931	36,884	15,408	5,531	751	198	58,772	87,980
		1	1930	2,486	1,471	332	48	13	4,350	6,425
		1	1931	2,837	1,185	426	58	15	4,521	6,768

FALL TRAFFIC CENSUS

Average Daily Average

High-way No.	Name of Highway	Number of Stations	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
				Ontario	Foreign					
2	Windsor-Quebec Boundary	37	1930	76,130	14,015	12,519	1,014	790	104,468	166,461
		37	1931	91,909	14,899	13,232	1,134	666	121,840	180,710
		1	1930	2,058	379	338	27	21	2,823	4,499
		1	1931	2,484	403	357	31	18	3,293	4,884
3	Windsor-Fort Erie	24	1930	22,519	10,819	3,086	205	407	37,036	62,988
		24	1931	22,507	10,251	2,929	231	372	36,286	48,451
		1	1930	938	451	129	8	17	1,543	2,625
		1	1931	938	427	122	10	15	1,512	2,019
3A	RESIDENCY 1, Dougal Avenue from Windsor South to Howard Avenue	1	1930	1,217	834	116	15	5	2,187	3,730
		1	1931	1,439	1,150	143	12	5	2,749	4,968
4	Port Stanley-Durham	10	1930	9,886	586	1,061	33	155	11,721	19,387
		10	1931	11,230	617	981	54	138	13,020	19,228
		1	1930	989	59	106	3	15	1,172	1,939
		1	1931	1,123	62	98	5	14	1,302	1,923
5	Toronto to Highway No. 8 (Paris)	5	1930	21,870	1,357	2,994	81	31	26,333	47,640
		5	1931	27,005	708	3,233	82	20	31,048	56,066
		1	1930	4,374	271	599	16	6	5,266	9,528
		1	1931	5,401	141	647	16	4	6,209	11,213
6	Port Dover-Owen Sound	10	1930	12,498	466	1,718	82	197	14,961	25,682
		10	1931	12,400	412	1,647	91	168	14,718	24,083
		1	1930	1,250	46	172	8	20	1,496	2,568
		1	1931	1,240	41	165	9	17	1,472	2,408
7	Sarnia-Madoc	22	1930	21,248	1,123	2,875	113	376	25,735	48,322
		22	1931	24,123	1,054	2,628	133	316	28,254	47,410
		1	1930	966	51	131	5	17	1,170	2,197
		1	1931	1,099	48	119	6	14	1,284	2,155

SUMMER TRAFFIC CENSUS

Average Daily Average

High-way No.	Name of Highway	Number of Stations	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
				Ontario	Foreign					
8A	Burlington Beach Cutoff	2	1930	9,277	1,245	888	205	13	11,628	13,590
		2	1931	11,514	1,336	1,074	213	21	14,158	21,803
		1	1930	4,639	623	444	102	6	5,814	6,795
		1	1931	5,757	668	537	107	10	7,079	10,902
9	Cookstown-Kincardine	2	1930	1,064	41	107	1	44	1,257	1,796
		2	1931	642	27	86	....	37	792	1,030
		1	1930	532	21	54	....	22	629	898
		1	1931	321	14	43	....	18	396	515
10	Port Credit-Owen Sound	4	1930	7,361	269	974	37	41	8,682	14,566
		4	1931	7,593	189	1,235	38	30	9,085	14,290
		1	1930	1,840	67	244	9	10	2,170	3,641
		1	1931	1,898	47	309	10	7	2,271	3,573
11	Toronto-Severn	6	1930	26,087	2,310	1,965	338	91	30,791	50,658
		6	1931	26,349	1,892	2,502	106	71	30,920	48,626
		1	1930	4,348	385	328	56	15	5,132	8,443
		1	1931	4,392	315	417	18	12	5,154	8,104
12	Whitby-Orillia	6	1930	7,477	463	568	43	72	8,623	15,854
		6	1931	7,626	402	560	35	55	8,678	17,443
		1	1930	1,246	77	95	7	12	1,437	2,642
		1	1931	1,271	67	93	6	9	1,446	2,907
14	Picton-Marmora	5	1930	4,716	269	622	63	209	5,879	7,990
		5	1931	4,893	316	875	66	211	6,361	8,081
		1	1930	943	54	124	13	42	1,176	1,598
		1	1931	979	63	175	13	42	1,272	1,616
15	Kingston-Ottawa	6	1930	4,413	508	449	8	163	5,541	7,646
		6	1931	4,543	537	461	14	166	5,721	8,348
		1	1930	736	85	74	1	27	923	1,274
		1	1931	757	90	77	2	28	954	1,391
16	Johnstown-Ottawa	3	1930	4,093	938	268	35	38	5,372	8,087
		3	1931	4,239	1,044	416	30	37	5,766	9,090
		1	1930	1,364	313	89	12	13	1,791	2,696
		1	1931	1,413	348	139	10	12	1,922	3,030

FALL TRAFFIC CENSUS

AVERAGE DAILY AVERAGE

High-way No.	Name of Highway	Number of Stations	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
				Ontario	Foreign					
8	Niagara Falls-Goderich	12	1930	28,283	8,686	4,398	571	188	42,126	70,539
		12	1931	32,411	7,509	5,365	619	155	46,059	69,439
		1	1930	2,357	724	366	48	16	3,511	5,887
		1	1931	2,701	626	447	51	13	3,838	5,787
8A	Burlington Beach Cutoff	2	1930	2,674	120	243	102	15	3,154	5,670
		2	1931	8,986	622	1,297	117	12	11,034	16,020
		1	1930	1,337	60	122	51	7	1,577	2,835
		1	1931	4,493	311	649	58	6	5,517	8,010
9	Cookstown-Kincardine	3	1930	787	12	93	....	56	948	1,275
		3	1931	1,238	18	157	....	51	1,464	2,930
		1	1930	262	4	31	....	19	316	425
		1	1931	413	6	53	....	17	488	977
10	Port Credit-Owen Sound	5	1930	9,991	165	1,336	46	155	11,693	25,925
		5	1931	7,705	88	1,135	46	98	9,072	15,713
		1	1930	1,998	33	267	9	31	2,338	5,185
		1	1931	1,541	18	227	9	20	1,815	3,143
11	Toronto-Severn	7	1930	18,939	436	2,570	97	127	22,169	44,533
		7	1931	23,908	521	2,391	117	92	27,029	49,037
		1	1930	2,706	62	367	14	18	3,167	6,362
		1	1931	3,415	75	341	17	13	3,861	7,005
12	Whitby-Orillia	6	1930	4,783	76	503	29	132	5,523	12,733
		6	1931	5,947	73	518	35	55	6,628	14,823
		1	1930	797	13	84	5	22	921	2,122
		1	1931	991	12	86	6	9	1,104	2,471
14	Picton-Marmora	5	1930	3,783	58	559	43	144	4,587	6,430
		5	1931	3,921	47	517	36	111	4,632	5,685
		1	1930	757	11	112	8	29	917	1,286
		1	1931	784	10	103	7	22	926	1,137
15	Kingston-Ottawa	6	1930	4,114	205	360	7	161	4,847	9,622
		6	1931	4,041	166	507	10	184	4,908	6,792
		1	1930	686	34	60	1	27	808	1,604
		1	1931	673	28	84	2	31	818	1,132

SUMMER TRAFFIC CENSUS

Average Daily Average

High-way No.	Name of Highway	Number of Stations	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
				Ontario	Foreign					
17	Pembroke-Point Fortune	10	1930	7,045	1,408	922	42	319	9,736	13,121
		10	1931	7,566	1,552	829	28	278	10,253	16,776
		1	1930	705	141	92	4	32	974	1,312
		1	1931	757	155	83	3	28	1,026	1,678
19	Point Burwell-Shakespeare	2	1930	1,449	83	268	6	79	1,885	2,054
		2	1931	1,373	74	403	6	93	1,949	2,565
		1	1930	725	42	134	3	39	943	1,026
		1	1931	687	37	202	3	46	975	1,283
20	Hamilton-Niagara Falls via Smithville	6	1930	5,221	1,776	871	27	70	7,965	13,003
		6	1931	5,535	1,539	911	26	50	8,061	13,210
		1	1930	870	296	145	5	12	1,328	2,167
		1	1931	923	257	152	4	8	1,344	2,202
21	Morpeth-Highway No. 7	3	1930	1,473	342	157	7	23	2,002	2,801
		3	1931	1,514	190	162	7	23	1,896	2,911
		1	1930	491	114	52	2	8	667	934
		1	1931	505	63	54	2	8	632	970
22	London-Highway No. 7	3	1930	1,586	1,156	205	10	35	2,992	4,217
		3	1931	2,157	1,035	236	16	22	3,466	5,067
		1	1930	529	385	68	3	12	997	1,406
		1	1931	719	345	79	5	7	1,155	1,689
23	Mitchell-Teviotdale	1	1930	403	22	54	....	25	504	625
		1	1931	381	19	64	....	32	496	639
24	Simcoe-Guelph	4	1930	3,239	144	419	18	32	3,852	6,261
		4	1931	3,900	138	668	15	57	4,778	7,320
		1	1930	810	36	105	4	8	963	1,565
		1	1931	975	35	167	4	14	1,195	1,830
25	Palermo-Milton	1	1930	364	16	102	4	4	490	568
		1	1931	460	6	111	4	3	584	903
26	Barrie-Owen Sound	3	1930	2,000	151	129	12	47	2,339	5,705
		3	1931	2,216	110	178	5	28	2,537	4,726
		1	1930	667	50	43	4	16	780	1,235
		1	1931	739	37	59	2	9	846	1,575

FALL TRAFFIC CENSUS

AVERAGE DAILY AVERAGE

Highway No.	Name of Highway	Number of Stations	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
				Ontario	Foreign					
16	Johnstown-Ottawa.	3	1930	3,069	485	627	20	40	4,241	7,416
		3	1931	2,619	489	329	24	31	3,492	4,800
		1	1930	1,023	162	209	7	13	1,414	2,472
		1	1931	873	163	110	8	10	1,164	1,600
17	Pembroke-Point Fortune.	10	1930	6,883	1,280	1,195	26	356	9,740	17,440
		10	1931	6,878	1,130	802	24	317	9,151	13,067
		1	1930	688	128	119	3	36	974	1,744
		1	1931	688	113	80	2	32	915	1,307
18	Tilbury-Windsor.	1	1930	873	253	190	. . . .	107	1,423	3,513
		1	1931	903	178	104	3	123	1,311	2,011
19	Point Burwell-Shakespeare.	2	1930	1,395	48	207	5	80	1,735	2,271
		2	1931	1,179	57	182	5	102	1,525	1,791
		1	1930	697	24	104	2	40	867	1,136
		1	1931	589	29	91	2	51	762	896
20	Hamilton-Niagara Falls via Smithville.	6	1930	5,084	900	828	23	71	6,906	12,484
		6	1931	4,772	673	892	25	62	6,424	8,253
		1	1930	847	150	138	4	12	1,151	2,081
		1	1931	795	112	149	4	10	1,070	1,376
21	Morpeth-Highway No. 7.	4	1930	2,237	163	216	11	80	2,707	4,877
		4	1931	2,070	104	220	6	55	2,455	4,038
		1	1930	559	41	54	3	20	677	1,219
		1	1931	518	26	55	1	14	614	1,010
22	London-Highway No. 7.	3	1930	2,163	506	236	14	20	2,939	4,891
		3	1931	2,673	603	274	16	16	3,582	6,075
		1	1930	721	169	79	4	7	980	1,630
		1	1931	891	201	92	5	5	1,194	2,025
23	Mitchell-Teviotdale.	2	1930	1,010	19	141	. . . .	68	1,238	1,849
		2	1931	987	20	116	. . . .	51	1,174	1,421
		1	1930	505	10	70	. . . .	34	619	924
		1	1931	494	10	58	. . . .	25	587	710

SUMMER TRAFFIC CENSUS

Average Daily Average

High-way No.	Name of Highway	Number of Stations	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
				Ontario	Foreign					
27	Barrie-Midland-Penetanguishene..........	1	1930	673	46	25	1	4	749	1,417
		1	1931	529	22	32	2	1	586	1,387
28	Port Hope-Peterborough.................	2	1930	2,325	382	231	17	34	2,989	5,537
		2	1931	2,328	300	234	23	26	2,911	5,255
		1	1930	1,163	191	116	8	17	1,495	2,769
		1	1931	1,164	150	117	12	13	1,456	2,628
29	Brockville-Arnprior....................	5	1930	2,408	193	309	16	155	3,081	6,254
		5	1931	2,204	206	242	19	128	2,799	4,991
		1	1930	481	39	62	3	31	616	1,251
		1	1931	441	41	48	4	26	560	998
31	Morrisburg-Carleton County Line.........	1	1930	573	154	81	3	59	870	1,319
		1	1931	622	153	83	3	57	918	1,093
32	Gananoque-Seeley's Bay.................	1	1930	368	60	48	....	23	499	581
		1	1931	304	56	40	....	28	428	528
34	Lancaster-Hawkesbury...................	2	1930	552	130	72	2	130	886	1,170
		2	1931	733	185	98	....	131	1,147	2,057
		1	1930	276	65	36	1	65	443	585
		1	1931	367	93	49	....	65	574	1,029
35	Lindsay-Fenelon Falls..................	1	1930	793	29	49	2	5	878	1,085
		1	1931	677	27	55	1	3	763	1,143
36	Lindsay-Bobcaygeon.....................	1	1930	379	36	27	7	8	457	832
		1	1931	606	77	38	....	32	753	1,200

FALL TRAFFIC CENSUS

AVERAGE DAILY AVERAGE

High-way No.	Name of Highway	Number of Stations	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
				Ontario	Foreign					
24	Simcoe-Guelph	4	1930	3,245	49	554	9	67	3,924	5,813
		4	1931	4,454	86	658	16	84	5,298	7,072
		1	1930	811	12	139	2	17	981	1,453
		1	1931	1,113	23	164	4	21	1,325	1,768
25	Palermo-Milton	1	1930	329	8	113	4	10	464	619
		1	1931	434	4	114	4	2	558	730
26	Barrie-Owen Sound	3	1930	1,284	15	175	1	50	1,525	2,358
		3	1931	1,942	11	226	5	48	2,232	3,615
		1	1930	428	5	58	....	17	508	786
		1	1931	647	4	75	2	16	744	1,205
27	Barrie-Midland-Penetanguishene	1	1930	232	3	33	....	3	271	436
		1	1931	477	1	37	5	2	522	981
28	Port Hope-Peterborough	2	1930	1,960	68	225	20	22	2,295	4,904
		2	1931	2,340	78	331	22	29	2,800	4,424
		1	1930	980	34	112	10	11	1,147	2,452
		1	1931	1,170	39	166	11	14	1,400	2,212
29	Brockville-Arnprior	5	1930	1,849	75	210	9	134	2,277	3,769
		5	1931	1,763	62	250	8	123	2,206	2,858
		1	1930	370	15	42	2	27	456	754
		1	1931	353	12	50	1	25	441	572
31	Morrisburg-Carleton County Line	2	1930	1,328	199	198	4	136	1,865	2,580
		2	1931	1,751	421	257	6	221	2,656	3,678
		1	1930	664	100	99	2	68	933	1,290
		1	1931	876	210	129	3	110	1,328	1,839
32	Gananoque-Seeley's Bay	1	1930	404	17	58	....	38	517	589
		1	1931	272	9	54	....	30	365	443
34	Lancaster-Hawkesbury	2	1930	531	95	139	1	71	837	1,135
		2	1931	524	69	128	....	127	848	983
		1	1930	266	48	69	....	36	419	568
		1	1931	262	35	64	....	63	424	492
35	Lindsay-Fenelon Falls	1	1930	451	5	34	1	2	493	878
		1	1931	526	2	46	1	10	585	1,021
36	Lindsay-Bobcaygeon	1	1930	329	8	20	....	28	385	640
		1	1931	421	13	34	....	29	497	691

Highway No. 2

WINDSOR TO QUEBEC BOUNDARY HIGHWAY

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Six Corners, North of Maidstone (East and West Bound Traffic)	1931	867	761	147	9	3	1,787	3,073
2	Woodslee	1930	1,147	1,440	206	17	23	2,833	4,368
		1931	801	986	177	14	8	1,986	3,159
3	East of Tilbury	1930	1,057	1,294	204	15	6	2,576	3,765
		1931	999	1,018	183	14	3	2,217	3,301
4	East of Chatham at Tupperville Road	1930	1,288	1,149	193	9	3	2,642	3,553
		1931	1,198	890	191	9	6	2,294	2,954
5	Thamesville Subway	1930	1,061	1,206	252	12	10	2,541	3,544
		1931	1,066	935	239	11	7	2,258	3,577
6	Wardsville	1930	970	1,104	174	9	10	2,267	3,219
		1931	868	799	141	10	12	1,830	2,443
7	Christina	1930	944	1,074	154	9	6	2,187	3,108
		1931	831	775	131	8	3	1,748	2,387
8	Lambeth, East and West Bound Traffic West of Lambeth	1930	2,950	1,355	360	20	10	4,695	6,223
		1931	2,014	932	312	18	8	3,284	4,320
8A	Lambeth, East and West Bound Traffic East of Lambeth	1930	2,962	296	196	4	8	3,466	5,177
		1931	2,536	536	244	17	6	3,339	5,227
9	East of London at Wyton Road	1930	1,912	1,382	298	14	2	3,608	4,726
		1931	1,897	961	298	16	2	3,174	4,364
10	Thamesford Corner	1930	1,761	1,367	314	14	37	3,493	4,418
		1931	1,707	941	294	14	38	2,994	3,940
11	Beachville	1930	2,000	1,371	457	32	34	3,894	4,942
		1931	1,944	917	374	33	29	3,297	4,027
12	Eastwood Corners	1930	1,687	1,373	231	9	5	3,305	4,617
		1931	1,507	868	282	10	6	2,673	3,405
13	Concessions I and II, Brantford Township	1930	2,314	1,477	327	48	9	4,175	5,484
		1931	2,068	1,004	255	51	7	3,385	4,732

WINDSOR-QUEBEC BOUNDARY HIGHWAY

Highway No. 2

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Six Corners, North of Maidstone	1930	868	414	138	7	....	1,427	2,859
		1931	1,016	510	146	8	1	1,681	2,766
2	Woodslee	1930	858	623	147	16	20	1,664	3,132
		1931	996	667	151	13	14	1,841	2,605
3	East of Tilbury	1930	1,018	642	174	15	6	1,855	3,372
		1931	1,324	600	237	14	4	2,179	3,097
4	East of Chatham at Tupperville Road	1930	1,308	432	304	15	11	2,070	2,985
		1931	1,500	505	348	8	17	2,378	3,280
5	East of Thamesville at C.N.R. Crossing	1930	1,010	500	239	11	13	1,773	2,650
		1931	1,453	467	166	11	9	2,106	3,198
6	Wardsville	1930	1,016	576	208	9	18	1,827	2,581
		1931	1,263	409	166	9	8	1,855	2,684
7	Christina	1930	1,002	435	160	9	5	1,611	2,344
		1931	1,357	428	141	9	3	1,938	2,817
8	Lambeth	1930	3,204	489	368	18	15	4,094	5,903
8½	" E. and W. Bound Traffic W. of Lambeth	1931	1,958	423	221	15	6	2,623	3,973
	" E. and W. Bound Traffic E. of Lambeth	1931	2,699	377	234	17	7	3,334	4,756
9	East of London at Wyton Road	1930	1,887	472	315	12	9	2,695	4,263
		1931	2,363	508	298	13	5	3,187	4,654
10	Thamesford Corner	1930	1,613	429	307	12	46	2,407	3,757
		1931	2,143	491	303	13	36	2,986	4,142
11	Beachville	1930	1,866	440	367	30	28	2,731	3,774
		1931	2,586	396	380	30	27	3,419	4,552
12	Eastwood	1930	1,605	374	240	6	7	2,232	3,304
		1931	2,159	367	233	7	7	2,773	4,155
13	Concessions I and II, Brantford Township	1930	2,034	544	391	43	5	3,017	4,160
		1931	2,367	420	337	43	3	3,170	4,492
14	Cainsville	1930	2,565	445	414	51	28	3,503	6,086
		1931	2,393	475	441	54	23	3,386	5,020

WINDSOR-QUEBEC BOUNDARY HIGHWAY

Highway No. 2

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
14	Cainsville	1930	2,689	1,287	402	57	20	4,455	6,540
		1931	2,449	884	458	51	18	3,860	5,636
15	Binkley's Corners	1930	3,650	1,591	834	38	13	6,126	7,559
		1931	3,258	1,012	648	34	14	4,966	6,767
16	Burlington	1930	6,071	1,995	979	114	6	9,164	12,177
		1931	6,066	1,796	942	111	7	8,922	12,284
17	Oakville	1930	5,040	1,844	903	68	10	7,865	9,983
		1931	4,862	1,583	719	65	12	7,241	9,863
18	Long Branch	1930	8,551	2,029	1,243	78	41	11,942	15,396
		1931	9,860	2,000	1,142	76	30	13,108	17,364
19	Junction of Markham Road	1930	10,234	583	973	233	58	12,081	20,407
		1931	8,035	284	835	194	36	9,384	14,919
20	Junction of Old Kingston Road	1930	6,317	497	611	69	15	7,509	12,946
		1931	6,983	418	784	72	19	8,276	15,265
21	West Hill	1930	7,160	1,197	801	70	3	9,231	15,887
		1931	7,277	934	919	68	5	9,203	17,270
22	Courtice Corners	1930	2,769	1,000	281	43	7	4,100	6,402
		1931	2,877	792	303	43	4	4,019	5,927
23	Welcome Corners	1930	2,150	1,151	254	18	17	3,590	5,514
		1931	2,161	822	230	18	8	3,239	4,824
24	East of Colborne	1930	1,566	860	192	14	14	2,646	3,254
		1931	1,419	678	142	13	10	2,262	2,907
24½	Trenton Overhead	1931	1,402	692	171	11	8	2,284	2,852
25	East of Trenton at C.P.R. Crossing	1930	Under construction						
		1931	1,911	607	230	18	9	2,775	3,590
26	East of Belleville at Point Anne Road	1930	1,470	774	187	13	6	2,450	2,990
		1931	1,793	617	180	20	8	2,618	3,717
27	Marysville	1930	1,052	855	115	11	8	2,041	2,763
		1931	1,179	597	120	13	11	1,920	2,404

WINDSOR-QUEBEC BOUNDARY HIGHWAY

Highway No. 2

Traffic Census—Fall

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
15	Binkley's Corners	1930	3,154	446	483	22	5	4,110	5,952
		1931	3,646	503	547	31	6	4,733	7,575
16	Burlington	1930	3,774	508	874	106	3	5,265	7,827
		1931	5,587	679	1,073	113	7	7,459	11,466
17	Oakville	1930	3,904	465	823	59	7	5,258	7,899
		1931	4,880	635	888	68	9	6,480	9,910
18	Long Branch	1930	6,888	606	1,224	68	34	8,820	12,881
		1931	8,248	812	1,536	83	25	10,704	15,465
19	Junction of Markham Road	1930	6,711	99	735	183	41	7,769	14,060
		1931	8,606	107	1,251	243	67	10,274	14,817
20	Junction of Old Kingston Road	1930	4,071	164	530	60	9	4,834	11,105
		1931	5,645	252	685	77	23	6,682	10,728
21	West Hill	1930	5,144	329	793	65	3	6,334	13,177
		1931	5,903	337	719	75	2	7,036	12,898
21½	Junction of Lansing Road	1931	5,965	358	669	72	....	7,064	13,850
22	Courtice Corners	1930	2,409	268	361	37	8	3,083	5,406
		1931	3,235	331	425	42	10	4,043	6,704
23	Welcome Corners	1930	1,735	218	220	15	15	2,203	4,029
		1931	2,292	270	229	17	9	2,817	4,827
24	East of Colborne	1930	1,326	222	235	11	21	1,815	2,334
		1931	1,519	263	177	12	10	1,981	2,933
24½	Trenton Overhead Bridge	1931	1,678	268	231	12	9	2,198	3,153
25	East of Trenton at C.P.R. Crossing	1930	Under construction						
		1931	2,555	319	370	16	4	3,264	4,139
26	At Point Anne Road	1930	1,459	239	200	14	10	1,922	2,480
		1931	1,601	242	175	13	7	2,038	2,763
27	Marysville	1930	887	261	119	11	14	1,292	1,836
		1931	1,236	218	124	12	16	1,606	2,380
28	Between Lots 20, 21, N. Fredericksburg Township	1930	1,359	239	183	12	31	1,824	2,427
		1931	1,639	267	203	11	22	2,142	2,005

Highway No. 2

WINDSOR-QUEBEC BOUNDARY HIGHWAY

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
28	Between Lots 20, 21, W. Fredericksburg Township	1930	1,474	918	311	14	31	2,748	3,272
		1931	1,476	656	180	12	52	2,376	2,865
29	Four Miles West of Odessa at Fellowes Corner	1930	1,110	854	252	12	3	2,231	2,665
		1931	1,135	626	290	12	5	2,068	2,372
30	Cataraqui	1930	2,176	871	232	14	25	3,318	4,180
		1931	2,341	666	286	13	29	3,335	4,183
31	Barriefield	1930	2,840	1,076	515	39	20	4,490	5,430
		1931	1,621	704	148	19	5	2,497	3,217
32	Escott	1930	936	710	77	9	37	1,769	2,685
		1931	731	574	80	7	49	1,441	1,795
33	West of Brockville at Lynn Road	1930	1,074	350	40	9	6	1,479	2,198
		1931	1,441	670	92	9	17	2,229	2,626
34	East of Brockville, Two Miles	1930	2,018	919	154	18	18	3,127	5,645
		1931	1,868	724	171	12	13	2,788	3,590
35	Johnstown Corner	1930	852	695	71	11	10	1,639	2,182
		1931	1,597	775	134	18	14	2,538	4,702
36	Morrisburg	1930	1,159	794	127	10	76	2,166	2,806
		1931	1,284	716	128	6	72	2,206	2,552
37	West Limits of Cornwall	1930	1,708	797	455	10	81	3,051	3,270
		1931	1,775	715	241	5	57	2,793	3,230
38	Lancaster	1930	711	809	110	4	37	1,671	2,220
		1931	903	774	149	2	53	1,886	2,786

WINDSOR-QUEBEC BOUNDARY HIGHWAY

Highway No. 2

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
29	Four Miles West of Odessa at Fellowes Corner	1930	919	231	119	11	1	1,281	1,774
		1931	1,185	289	123	11	3	1,611	2,286
30	Cataraqui Corner	1930	1,933	243	241	12	43	2,472	3,300
		1931	2,139	274	245	12	21	2,691	3,764
31	Barriefield	1930	1,452	334	416	14	23	2,239	2,803
		1931	1,356	300	126	21	3	1,806	2,471
32	Escott	1930	547	222	68	7	39	883	1,296
		1931	763	265	89	7	35	1,159	1,693
33	West of Brockville at Lynn Road	1930	1,094	312	105	14	24	1,549	2,370
		1931	1,129	315	98	10	18	1,570	2,291
34	East of Brockville, Two Miles	1930	1,391	431	177	13	38	2,050	3,279
		1931	1,136	274	174	8	37	1,629	2,266
35	Johnstown Corner	1930	682	275	117	6	9	1,089	1,859
		1931	735	256	62	5	5	1,063	1,476
36	Morrisburg	1930	1,122	404	176	8	93	1,803	2,364
		1931	1,442	591	247	6	63	2,349	3,013
37	West Limits of Cornwall	1930	1,614	320	250	8	62	2,254	2,764
		1931	1,681	372	273	6	63	2,395	2,908
38	Lancaster	1930	701	364	298	4	46	1,413	2,069
		1931	687	427	182	2	41	1,339	1,853

Highway No. 3

WINDSOR-FORT ERIE HIGHWAY

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Maidstone, traffic west of	1930	1,856	2,832	212	12	6	4,918	9,340
		1931	1,805	2,793	215	13	5	4,831	11,576
1a	Maidstone, traffic east of	1930	1,806	2,223	216	6	5	4,256	9,055
		1931	1,525	2,069	198	9	2	3,803	7,978
2	North of Cottam	1930	1,611	1,626	252	12	8	3,509	7,589
		1931	1,457	1,878	173	9	6	3,523	8,081
3	Cedar Springs	1930	901	832	104	2	8	1,847	2,414
		1931	902	777	229	9	6	1,923	2,916
4	Blenheim Crossing	1930	1,191	909	131	4	45	2,280	3,164
		1931	1,157	861	168	9	18	2,213	3,123
5	Morpeth	1930	926	981	155	9	6	2,077	2,988
		1931	733	738	96	13	4	1,584	2,462
6	Wallacetown	1930	840	786	80	2	12	1,720	2,514
		1931	681	685	80	7	16	1,469	2,292
7	Talbotville, traffic west of	1930	991	692	100	4	7	1,794	2,839
		1931	832	674	97	10	7	1,620	2,306
8	Talbotville, traffic east of	1930	2,162	851	179	4	8	3,204	4,880
		1931	1,916	797	174	13	9	2,909	4,610
9	West limits of St. Thomas	1930	1,949	824	152	5	7	2,937	5,210
		1931	2,165	923	171	14	15	3,288	4,956
10	New Sarum	1930	1,416	744	138	2	7	2,307	3,104
		1931	1,266	675	157	13	5	2,116	3,046
11	Junction of Bayham Road	1930	623	682	65	3	3	1,378	1,997
		1931	612	649	101	9	6	1,377	2,017
12	Courtland	1930	1,034	683	138	6	22	1,883	2,570
		1931	1,007	644	188	11	14	1,864	2,475
13	Renton	1930	957	713	123	14	18	1,825	2,773
		1931	899	657	151	14	7	1,728	2,453
14	Jarvis	1930	1,695	803	198	14	43	2,753	4,606
		1931	1,291	685	270	12	41	2,299	2,994

WINDSOR-FORT ERIE HIGHWAY

Highway No. 3

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Maidstone, traffic west of	1930	1,446	1,125	206	12	55	2,844	6,209
		1931	1,272	952	188	13	94	2,519	4,171
1a	Maidstone, traffic east of	1930	1,318	779	160	6	6	2,269	4,642
		1931	1,095	610	171	10	13	1,899	2,887
2	North of Cottam	1930	1,036	619	201	6	4	1,866	4,025
		1931	676	457	268	11	6	1,418	1,757
3	Cedar Springs	1930	763	334	130	3	16	1,246	1,917
		1931	670	289	103	6	10	1,078	1,321
4	Blenheim Crossing	1930	969	328	138	5	51	1,491	1,982
		1931	689	347	97	7	20	1,160	1,426
5	Morpeth	1930	662	333	85	9	3	1,092	1,733
		1931	693	311	78	12	3	1,097	1,431
6	Wallacetown	1930	646	290	80	3	20	1,039	1,762
		1931	704	300	78	6	9	1,097	1,483
7	Talbotville, traffic west of	1930	873	290	84	2	15	1,264	2,017
		1931	919	299	88	6	21	1,333	1,924
8	Talbotville, traffic east of	1930	1,647	365	159	5	10	2,186	3,426
		1931	1,762	359	166	11	11	2,309	3,038
9	West limits of St. Thomas at junction of Road to Fingal	1930	1,885	345	175	4	18	2,427	3,913
		1931	1,849	406	171	11	15	2,452	2,969
10	New Sarum	1930	1,331	275	128	6	8	1,748	2,844
		1931	1,233	296	125	10	11	1,675	2,053
11	Junction of Bayham Road	1930	697	246	101	7	8	1,059	1,941
		1931	745	256	88	9	6	1,104	1,578
12	Courtland	1930	908	264	148	11	15	1,346	1,979
		1931	1,156	273	141	9	15	1,594	1,967
13	Renton	1930	862	279	123	10	17	1,291	1,914
		1931	957	287	94	12	8	1,358	1,684
14	Jarvis	1930	1,308	214	183	12	39	1,756	2,450
		1931	1,528	245	183	14	40	2,010	2,442

Highway No. 3

WINDSOR-FORT ERIE HIGHWAY

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
15	Nelles Corners	1930	525	673	54	4	11	1,267	1,903
		1931	529	644	68	5	9	1,255	1,883
16	Canboro Corners	1930	762	699	135	7	10	1,613	2,583
		1931	689	662	98	10	7	1,466	2,383
17	Junction of Forks Road, Lots 39, 40, Wainfleet Twp	1930	672	815	80	11	4	1,582	2,591
		1931	724	809	87	10	10	1,640	2,864
18	Chambers Corners, traffic west of	1930	750	696	104	7	6	1,563	2,744
		1931	671	776	93	8	3	1,551	2,782
19	Chambers Corners, traffic south of	1930	549	473	80	6	3	1,111	1,903
		1931	568	562	56	....	5	1,191	2,407
20	At Lot 1, Concession I, Wainfleet Township	1930	1,081	1,038	123	....	20	2,262	4,070
		1931	1,206	1,112	135	....	24	2,477	4,470
21	At Welland Canal Road	1930	1,836	1,013	345	37	33	3,264	4,768
		1931	1,826	1,063	312	31	31	3,263	4,887
22	At Ridgeway Road	1930	1,271	10,255	379	69	5	11,879	19,517
		1931	1,456	9,967	205	53	9	11,690	17,744

Highway No. 3

WINDSOR-FORT ERIE HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
15	Nelles Corners	1930	485	267	71	3	14	840	1,315
		1931	525	304	64	4	10	907	1,101
16	Canboro Corners	1930	654	286	89	8	15	1,052	1,806
		1931	732	292	98	8	10	1,140	1,447
17	Junction of Forks Road, Lots 39, 40, Wainfleet Twp.	1930	617	383	79	8	4	1,091	2,023
		1931	709	426	91	10	9	1,245	1,708
18	Chambers Corners, traffic west of	1930	371	168	78	7	2	626	1,172
		1931	712	443	90	10	5	1,260	1,764
19	Chambers Corners, traffic south of	1930	592	304	97	7	5	1,005	1,831
		1931	415	318	48	....	4	785	1,166
20	Lot 1, Concession 1, Wainfleet Township	1930	662	371	102	1	30	1,166	2,020
		1931	812	424	97	....	14	1,347	1,870
21	At Welland Canal Road	1930	1,553	434	320	40	39	2,386	3,511
		1931	1,720	512	257	34	33	2,556	3,226
22	At Ridgeway Road	1930	1,234	2,520	149	30	13	3,946	6,556
		1931	934	1,845	141	18	5	2,943	4,038

Highway No. 3a

(a) HIGHWAY No. 3 TO WINDSOR. (b) HIGHWAY No. 3 TO HIGHWAY No. 20

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
a	RESIDENCY No. 1:								
	(a) South of Windsor at junction of Howard Ave.	1930	1,722	2,769	180	17	5	5,693	8,117
		1931	1,439	1,150	143	12	5	2,749	4,968
b	RESIDENCY No. 4:								
	(b) At Beckett's Bridge	1930	748	414	107	6	11	1,286	2,391
		1931*	703	389	91	7	7	1,197	2,100

*Under construction.

Highway No. 3a

(a) HIGHWAY No. 3 TO WINDSOR. (b) HIGHWAY No. 3 TO HIGHWAY No. 20

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
a	RESIDENCY NO. 1:								
	(a) South of Windsor at junction of Howard Ave.	1930	1,217	834	116	15	5	2,187	3,730
		1931	1,439	1,150	143	12	5	2,749	4,968
b	RESIDENCY NO. 4:								
	(b) At Beckett's Bridge	1930	597	125	95	6	5	828	1,721
		1931*	597	103	73	7	4	784	1,069

*Under construction.

PORT STANLEY-DURHAM HIGHWAY

Highway No. 4

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Union	1930	2,101	286	160	....	3	2,550	4,437
		1931	1,594	188	130	....	6	1,918	3,483
2	Talbotville, traffic north of	1930	1,795	377	147	1	7	2,227	3,534
		1931	1,639	214	141	6	5	2,005	3,779
3	West entrance of St. Thomas, London-Port Stanley traffic	1931	652	121	44	1	6	824	1,574
4	Lambeth, traffic south of	1930	2,962	296	196	4	8	3,466	5,177
		1931	2,200	198	184	11	5	2,598	4,550
5	North of London, at Con. 4 and 5, London Twp.	1930	2,219	356	209	17	19	2,820	4,377
		1931	2,806	438	286	15	11	3,556	5,554
6a	Elginfield (London traffic)	1930	1,206	136	107	13	....	1,462	2,486
		1931	1,296	109	127	10	4	1,546	2,716
6b	Elginfield (Clinton traffic)	1930	621	52	66	4	3	746	1,270
		1931	732	50	69	2	5	858	1,516
7	Brucefield	1930	520	33	65	....	24	642	857
		1931	639	38	79	2	35	793	1,119
8	South of Wingham	1930	336	26	36	....	19	417	530
		1931	467	24	33	2	25	551	1,111
9	Junction of Highway No. 9	1930	185	17	26	....	4	232	377
		1931	117	6	23	....	3	149	218
10	At Chesley Road	1930	638	38	62	2	31	771	1,214
		1931	468	20	51	4	23	566	700

PORT STANLEY-DURHAM HIGHWAY

Highway No. 4

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Union	1930	857	29	136	....	6	1,028	1,717
		1931	1,006	30	126	....	6	1,168	1,570
2	Talbotville, traffic north of	1930	1,300	116	126	1	16	1,559	2,619
		1931	1,387	114	117	5	20	1,643	2,324
3	West entrance of St. Thomas	1931	194	11	26	....	4	235	481
4	Lambeth, traffic south of	1930	1,679	102	168	2	11	1,962	3,235
		1931	1,803	102	162	7	8	2,082	2,985
5	North of London at Concessions 4 and 5, London Township	1930	2,558	217	252	15	14	3,056	5,436
		1931	3,167	236	247	17	9	3,676	5,604
6a	Elginfield (London traffic)	1930	1,205	57	110	9	3	1,384	2,405
		1931	1,373	58	117	11	5	1,564	2,313
6b	Elginfield (Lucan traffic)	1930	613	19	57	2	5	696	1,241
		1931	717	25	58	4	6	810	1,222
7	Brucefield	1930	592	14	87	....	33	726	999
		1931	602	24	63	4	35	728	878
8	South of Wingham, Lots 20, 21, Concession 8, Turnberry Township	1930	383	20	35	....	35	473	658
		1931	409	15	33	2	24	483	828
9	At junction of Highway No. 9	1930	209	5	46	....	8	268	403
		1931	237	4	22	....	3	266	743
10	At Chesley Road	1930	490	7	44	4	24	569	674
		1931	529	9	36	4	22	600	761

TORONTO TO HIGHWAY No. 8 (PARIS)

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Islington	1930	5,556	355	602	38	8	6,559	10,717
		1931	5,725	341	1,075	48	12	7,201	9,405
2	Cooksville	1930	7,843	519	1,160	20	16	9,558	14,950
		1931	8,034	365	1,426	20	10	9,855	14,695
3	Trafalgar	1930	3,180	373	410	7	3	3,973	6,215
		1931	3,195	299	508	6	1	4,009	6,396
4	Brant Street	1930	2,572	340	244	8	1	3,165	4,729
		1931	2,577	260	306	7	1	3,151	4,951
5	East of Clappison's Corners, traffic east and west	1930	3,280	343	365	8	4	4,000	5,996
		1931	3,450	225	461	10	5	4,151	6,405
6	At junction of Brantford-Galt Highway	1930	398	18	62	7	3	488	597
		1931	465	17	66	7	3	558	827

TORONTO TO HIGHWAY No. 8

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Islington	1930	4,869	233	673	38	7	5,820	11,414
		1931	7,879	208	1,034	38	9	9,168	17,235
2	Cooksville	1930	6,484	282	1,163	19	17	7,965	12,747
		1931	7,804	160	1,192	21	6	9,183	16,174
3	Trafalgar	1930	3,646	296	443	8	3	4,396	8,275
		1931	3,989	131	425	7	4	4,556	7,833
4	Brant Street	1930	3,135	323	312	7	1	3,778	6,931
		1931	3,262	122	247	7	....	3,638	6,498
5	Clappison's Corners, traffic east of	1930	3,736	223	403	9	3	4,374	8,273
		1931	4,071	87	335	9	1	4,503	8,326
6	Clappison's Corners, traffic west of	1930	1,419	44	231	1	3	1,698	3,197
		1931	Not taken						
7	At Highway No. 24	1930	110	1	29	....	1	141	235
		1931	853	14	76	8	9	960	1,578

Highway No. 6

PORT DOVER-OWEN SOUND HIGHWAY

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Jarvis, traffic south of	1930	Under con	struction					
		1931	512	53	178	5	15	763	1,533
2	Jarvis, traffic north of	1930	1,329	169	136	12	21	1,667	3,076
		1931	1,211	115	285	11	17	1,639	2,685
3	At Ohsweken Road	1930	1,275	140	191	15	15	1,636	3,516
		1931	1,285	101	196	19	8	1,609	3,201
4	Concessions 5 and 6, Glanford Township	1930	1,812	143	200	18	11	2,184	4,653
		1931	1,789	105	247	17	7	2,165	4,329
5	South of "Island" at Clappison's Corners, traffic north and south	1930	3,985	330	458	22	10	4,805	7,349
		1931	3,293	317	421	21	3	4,055	5,698
6	North of Clappison's Corners, traffic north and south	1931	1,652	88	250	15	4	2,009	3,636
7	Freelton	1930	1,100	64	164	11	9	1,348	2,535
		1931	1,113	72	144	14	10	1,353	2,653
8	South of Guelph, Lots 6 and 7, Puslinch Township	1930	1,336	150	217	11	11	1,725	2,891
		1931	1,072	62	145	13	2	1,294	2,325
9	North of Guelph at Elora Road	1930	Under con	struction					
		1931	846	55	80	1	2	984	1,631
10	Junction of Highway No. 9, south of Arthur	1930	986	49	99	4	65	1,203	1,687
		1931	850	46	114	5	71	1,086	1,584
11	South of Durham	1930	573	47	42	4	10	676	995
		1931	511	40	84	5	6	646	950
12	Chatsworth Corners	1930	587	41	41	5	15	689	1,284
		1931	508	31	55	4	10	608	906

Highway No. 6

PORT DOVER-OWEN SOUND HIGHWAY, via Hamilton

Traffic Census—Fall

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Jarvis, traffic south of	1930	268	9	52	....	14	343	548
		1931	330	7	82	1	13	433	523
2	Jarvis, traffic north of	1930	1,061	40	149	8	23	1,281	1,807
		1931	1,181	33	172	9	17	1,412	1,682
3	At Ohsweken Road	1930	948	31	217	10	6	1,212	1,962
		1931	1,047	37	205	11	12	1,312	1,932
4	Concessions 5 and 6, Glanford Township	1930	1,375	37	218	14	9	1,653	1,821
		1931	1,512	33	218	13	11	1,787	2,882
5	South of "Island" at Clappison's Corners	1930	4,651	192	481	20	8	5,352	10,064
		1931	3,551	170	407	24	7	4,159	7,187
6	Just north of Clappison's Corners, traffic north and south	1931	1,538	47	280	14	5	1,884	3,519
7	Freelton	1930	1,034	40	194	11	12	1,291	2,684
		1931	1,183	45	174	11	10	1,423	2,600
8	South of Guelph, Lots 6 and 7, Puslinch Township	1930	1,258	88	251	10	12	1,619	3,176
		1931	1,147	22	162	12	4	1,347	2,382
9	North of Guelph at Elora Road	1930	Under construction						
		1931	1,305	28	148	3	9	1,493	2,918
10	Junction of Highway No. 9, south of Arthur	1930	973	10	79	3	75	1,140	1,933
		1931	1,344	18	131	4	61	1,558	2,936
11	South of Durham	1930	459	12	33	3	20	527	865
		1931	580	37	60	3	16	696	1,056
12	Chatsworth Corners (Guelph traffic)	1930	471	7	44	3	18	543	822
		1931	525	10	36	3	17	591	903

SARNIA-MADOC HIGHWAY via Stratford, Brampton and Peterborough

Highway No. 7

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Forest Road	1930	592	691	46	8	5	1,342	2,231
		1931	Not taken						
2	Reece's Corners	1931	967	571	97	7	14	1,656	2,530
3	West of Wisbeach	1930	254	164	33	2	14	467	786
		1931	456	141	39	2	17	655	1,132
4	West of Parkhill at Kerwood Road	1930	304	109	28	2	15	458	760
		1931	412	131	45	3	14	605	1,093
5	Parkhill	1930	744	175	80	6	41	1,046	1,325
		1931	652	114	59	4	26	855	1,211
6a	Elginfield (Sarnia traffic)	1930	201	45	18	....	2	266	461
		1931	200	35	19	....	5	259	504
6b	Elginfield (Stratford traffic)	1930	722	133	64	10	4	933	1,562
		1931	680	91	73	8	4	856	1,451
7	West of St. Mary's	1930	942	133	113	11	13	1,212	1,860
		1931	949	115	110	9	14	1,197	1,893
8	South of Stratford	1930	1,465	156	153	9	26	1,809	2,724
		1931	1,496	122	161	9	18	1,806	2,824
9	Shakespeare	1930	1,435	146	192	8	22	1,803	3,245
		1931	1,495	121	205	8	18	1,847	3,139
10	West of Baden	1930	1,440	135	204	10	15	1,804	2,974
		1931	1,525	112	219	12	19	1,887	3,146
11	East of Kitchener at Breslau Road	1930	1,058	75	136	10	12	1,291	2,004
		1931	1,198	64	137	10	9	1,418	2,487
12	West of Guelph, Concessions 4 and 5, Guelph Twp.	1930	1,071	75	151	10	10	1,317	2,035
		1931	1,135	62	160	9	10	1,376	2,299
13	East of Guelph, Lot 11, Concession 2, Guelph Twp.	1930	1,298	77	169	9	12	1,565	2,735
		1931	Under construction						
14	Junction of Highway No. 10	1930	1,662	84	278	9	5	2,038	3,121
		1931	1,430	47	233	10	5	1,725	2,741
15	At Thornhill	1931	2,017	60	224	....	3	2,304	4,932

SARNIA-MADOC HIGHWAY, Via Stratford, Brampton and Peterborough

Highway No. 7

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
2	Reece's Corners	1930	1,107	305	91	6	17	1,526	2,939
		1931	1,033	327	81	6	12	1,459	2,015
2½	At Eighteenth Sideroad	1931	254	101	15	....	5	375	547
3	West of Wisbeach	1930	385	92	63	2	10	552	915
		1931	417	75	37	2	9	540	683
4	West of Parkhill at Kerwood Road	1930	299	89	53	2	35	478	678
		1931	374	91	61	2	44	572	770
5	Parkhill	1930	694	114	67	4	54	933	1,267
		1931	774	63	68	4	52	961	1,425
6a	Elginfield (to Sarnia traffic)	1930	193	17	16	....	2	228	324
		1931	219	20	21	....	3	263	395
6b	Elginfield (to Stratford traffic)	1930	769	52	68	7	3	899	1,527
		1931	839	53	76	7	7	982	1,550
7	G.T.R. Crossing, St. Mary's	1930	1,008	72	132	10	18	1,240	1,936
		1931	1,252	83	124	9	21	1,489	2,185
8	South of Stratford	1930	1,922	75	284	11	26	2,318	3,250
		1931	1,529	44	146	7	21	1,747	2,658
9	Shakespeare	1930	1,638	57	209	9	33	1,946	3,350
		1931	1,715	50	235	8	15	2,023	3,096
10	West of Baden	1930	1,550	63	225	10	15	1,863	3,305
		1931	1,846	62	233	10	11	2,162	3,656
11	East of Kitchener at Breslau Road	1930	1,091	19	190	8	11	1,319	2,491
		1931	1,438	23	153	9	16	1,639	2,721
12	West of Guelph, Concessions 4 and 5, Guelph Twp.	1930	1,266	29	205	10	9	1,519	2,752
		1931	1,369	22	145	10	11	1,557	2,542
13	East of Guelph, Lot 11, Concession 11, Guelph Twp.	1930	1,279	12	152	10	12	1,465	2,797
		1931	1,606	10	148	13	6	1,783	3,117
14	Junction of Highway No. 10	1930	1,841	43	306	10	9	2,209	4,555
		1931	2,494	43	317	15	7	2,876	5,786
15	Thornhill, traffic west of Yonge Street	1930	1,548	21	194	....	14	1,777	4,841
		1931	1,851	19	239	....	4	2,113	4,047

SARNIA-MADOC HIGHWAY, Via Stratford, Brampton and Peterborough

Highway No. 7

Traffic Census—Summer

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
16	Langstaff, corner of Yonge Street	1930	904	23	115	1	16	1,059	1,936
		1931	1,119	25	132	1	9	1,286	2,878
17	South of Brooklin, junction Highway No. 12	1930	374	12	36	....	9	431	983
		1931	460	15	41	....	6	522	1,228
18	West of Lindsay, Lots 12, 13, Brock Township	1930	1,015	61	47	12	10	1,181	2,507
		1931	1,004	55	49	8	6	1,122	2,104
19	West limits of Lindsay	1930	1,517	63	82	13	17	1,692	4,254
		1931	1,140	59	65	8	18	1,290	2,205
20	South of Lindsay at Newcastle Road	1930	240	5	13	....	16	274	469
		1931	527	38	45	4	16	630	1,056
21	Junction of Chemong Road, traffic west and south	1930	541	49	72	5	6	673	1,326
		1931	1,427	119	151	9	9	1,715	2,759
22	Junction of Keene and Old Norwood Roads	1930	393	41	42	3	3	482	643
		1931	470	23	67	8	6	574	671
23	One-half mile south of Havelock	1931	322	16	41	3	13	395	615
24	Three miles east of Marmora	1931	387	14	31	7	19	458	529

Highway No. 7

SARNIA-PETERBOROUGH HIGHWAY, Via Stratford and Brampton

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
16	Langstaff, traffic east of Yonge Street	1930	846	8	172	1	12	1,039	2,385
		1931	986	12	131	1	10	1,140	2,124
17	South of Brooklin at Highway No. 12	1930	405	7	115	....	14	541	1,163
		1931	416	5	41	....	13	475	953
18	West of Lindsay, Lots 12, 13, Brock Township	1930	649	8	51	7	29	744	1,801
		1931	884	4	74	9	6	977	2,382
19	West limits of Lindsay	1930	905	11	69	6	21	1,012	1,876
		1931	1,143	10	74	9	19	1,255	2,233
20	South limits of Lindsay	1930	546	4	44	....	19	613	1,310
		1931	602	2	45	4	17	670	952
21	Junction of Chemong Road, traffic west and south	1930	507	9	54	....	2	572	1,232
		1931	882	31	123	5	9	1,050	1,464
22	Junction of Keene and Old Norwood Roads	1930	810	16	115	....	11	952	1,628
		1931	454	5	56	3	3	521	656
23	South of Havelock	1931	348	4	39	3	14	408	468
24	Three miles east of Marmora	1931	433	9	46	13	35	536	620

NIAGARA FALLS-GODERICH HIGHWAY

Highway No. 8

Traffic Census—Summer

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	South End Corner	1930	3,739	2,914	387	58	9	7,107	9,566
		1931	3,834	2,550	549	58	22	7,013	9,835
2a	St. David's (Niagara Falls traffic)	1930	2,265	3,501	235	45	9	6,055	9,406
		1931	2,226	2,666	331	54	3	5,280	7,986
2b	St. David's (St. Catharines traffic)	1930	2,234	3,893	224	43	9	6,403	9,972
		1931	2,381	2,658	348	58	6	5,451	8,358
3	Jordan Corners	1930	3,261	2,519	510	50	9	6,349	9,896
		1931	3,242	2,303	496	50	7	6,098	10,297
4	Junction of Grimsby Park Road	1930	3,529	2,369	503	37	22	6,460	10,264
		1931	3,406	2,000	609	35	8	6,058	9,642
5	Junction of Old Stoney Creek Road	1930	4,816	3,019	728	49	3	8,615	12,733
		1931	5,014	2,395	698	72	7	8,186	13,273
6	Binkley's Corners	1930	3,694	333	622	184	12	4,845	5,994
		1931	4,226	195	843	145	14	5,423	6,713
7	Bullock's Corners	1930	1,871	125	273	18	13	2,300	3,193
		1931	1,846	133	252	14	13	2,258	3,585
8	At junction of Highway No. 24	1930*	1,014	38	109	....	5	1,166	1,668
		1931	4,508	183	685	130	41	5,547	6,832
9	Southeast limits of Preston	1930	3,023	177	463	131	27	3,821	4,348
		1931	2,965	144	433	123	12	3,677	4,715
10	East of Sebringville	1930	1,386	110	131	2	18	1,647	3,578
		1931	1,612	82	139	4	17	1,854	3,531
11	Dublin	1930	886	72	71	2	21	1,052	1,771
		1931	954	48	86	4	29	1,121	1,790
12	South of Goderich	1930	594	57	56	....	17	724	1,138
		1931	670	51	62	4	19	806	1,423

*Grading operations were in progress in 1929 and 1930 and this accounts for the small amount of traffic using this road last year and the year before.

Highway No. 8

NIAGARA FALLS-GODERICH HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	South End Corner	1930	3,317	1,362	456	57	16	5,208	8,248
		1931	3,394	1,110	430	62	15	5,011	6,892
2a	St. David's (Niagara Falls traffic)	1930	2,092	1,642	329	66	6	4,135	7,305
		1931	2,057	1,353	372	57	7	3,846	5,270
2b	St. David's (St. Catharines traffic)	1930	2,323	1,644	311	56	9	4,343	8,817
		1931	2,471	1,343	325	54	7	4,200	6,326
3	Jordan Corners	1930	2,810	1,275	556	43	17	4,701	9,171
		1931	3,353	1,092	686	59	10	5,200	8,380
4	At Grimsby Park Road	1930	2,832	1,145	505	31	12	4,525	8,681
		1931	3,654	1,191	748	54	8	5,655	9,045
5	Junction of Old Stoney Creek Road	1930	3,129	1,273	710	38	5	5,155	6,590
		1931	5,072	1,061	995	64	4	7,196	11,581
6	Binkley's Corners	1930	3,726	101	585	139	11	4,562	6,698
		1931	4,276	121	876	119	9	5,401	7,628
7	Bullock's Corners	1930	1,916	60	232	17	17	2,242	4,096
		1931	2,155	78	270	14	14	2,531	4,792
8	Junction of Highway No. 24	1930	845	18	149	1	14	1,027	1,517
		1931	Not taken						
9	Southeast limits of Preston	1930	3,369	97	433	124	14	4,037	5,845
		1931	3,082	92	396	123	13	3,706	4,740
10	East of Sebringville at St. Mary's Road	1930	1,353	47	158	....	24	1,582	2,269
		1931	1,442	34	131	4	19	1,630	2,387
11	Dublin	1930	828	24	75	....	41	968	1,628
		1931	836	20	87	4	32	979	1,441
12	South of Goderich at Lot 9, Concession A, Goderich Township	1930	588	16	48	....	16	668	1,191
		1931	619	14	49	5	17	704	957

BURLINGTON BEACH HIGHWAY

Highway No. 8a

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Burlington Beach Highway at junction of Beach Road	1930	5,156	1,065	522	91	8	6,842	7,501
		1931	6,728	1,105	639	112	13	8,597	13,622
2	Beach Road at junction of Burlington Beach Highway	1930	4,121	180	366	114	5	4,786	6,089
		1931	4,786	231	435	101	8	5,561	8,181

BURLINGTON BEACH HIGHWAY

Highway No. 8a

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Burlington Beach Highway at intersection of Beach Road	1930	1,458	71	133	49	8	1,719	3,239
		1931	5,548	555	842	66	7	7,018	10,662
2	Beach Road at intersection of Burlington Beach Highway	1930	1,216	49	110	53	7	1,435	2,431
		1931	3,438	67	455	51	5	4,016	5,358

Highway No. 9

ARTHUR-KINCARDINE HIGHWAY

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At junction of Highway No. 6	1930	332	12	43	....	9	396	521
		1931	Under construction						
2	Teviotdale	1930	318	16	32	1	10	377	555
		1931	Under construction						
3	West limits of Clifford Village	1930	Under construction						
		1931	512	26	67	....	24	629	1,080
4	At junction of Teeswater Road	1930	351	30	44	....	7	432	622
		1931	265	20	38	....	8	331	500
5	West of Cookstown	1930	713	11	63	1	37	825	1,174
		1931	377	7	48	....	29	461	530

Highway No. 9

ARTHUR-KINCARDINE HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Highway No. 6, traffic west of	1930	236	3	22	....	8	269	368
		1931	598	9	69	....	11	687	1,513
1a	At Highway No. 6, traffic east of	1930	223	2	17	....	37	279	359
		1931	225	2	53	....	33	313	511
2	Teviotdale	1930	305	5	47	....	12	369	660
		1931	Under con	struction					
3	North limits of Clifford Village	1930	Under con	struction					
		1931	577	9	60	....	26	672	1,056
4	At junction of Highway No. 4 (at Kinloss in 1927)	1930	328	7	54	....	11	400	548
		1931	415	7	35	....	7	464	906
5	West of Cookstown	1931	403	3	34	....	31	471	764
6	Primrose	1931	282	......	39	....	13	334	505

Highway No. 10

PORT CREDIT-CHATSWORTH HIGHWAY

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Cooksville Corners	1930	3,771	132	495	26	15	4,439	7,890
		1931	4,202	107	755	25	4	5,093	7,938
2	At junction of Highway No. 7	1930	2,151	76	347	10	5	2,589	3,498
		1931	2,081	53	344	12	6	2,496	3,843
3	Primrose	1930	959	44	98	1	10	1,112	1,893
		1931	868	15	95	1	11	990	1,670
4	Flesherton	1930	2,150	117	193	13	51	2,524	2,947
		1931*	1,039	24	110	5	36	1,214	1,456
5	Chatsworth	1930	480	17	34	....	11	542	1,285
		1931	442	14	41	....	9	506	839

*Highway under construction just north of this station.

Highway No. 10

PORT CREDIT-CHATSWORTH HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Cooksville Corners	1930	5,122	87	586	26	18	5,839	15,697
		1931	2,828	34	549	23	3	3,437	5,523
2	At Brampton-Guelph Highway	1930	2,492	50	411	11	11	2,975	6,093
		1931	2,344	38	316	14	6	2,718	5,607
3	Primrose	1930	891	16	134	....	11	1,052	1,934
		1931	900	5	92	....	12	1,009	1,905
4	Flesherton	1930	1,077	9	161	9	99	1,355	1,456
		1931	1,172	5	132	9	67	1,385	1,969
5	Chatsworth Corners (Orangeville traffic)	1930	409	3	44	....	16	472	745
		1931	461	6	46	....	10	523	709

Highway No. 11

TORONTO-SEVERN HIGHWAY

Traffic Census—Summer

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Lansing Corner	1930	9,538	525	875	188	37	11,163	17,016
		1931	9,336	353	1,012	34	28	10,763	15,820
2	Langstaff Corner	1930	7,276	411	592	78	17	8,374	14,114
		1931	7,609	346	702	36	9	8,702	14,487
3	South Holland Landing Hill	1930	2,824	426	188	16	3	3,457	6,533
		1931	2,930	336	215	12	2	3,495	5,061
4	South of Barrie	1930	2,787	326	132	16	5	3,266	5,934
		1931	2,792	290	174	12	3	3,271	6,112
5	Crown Hill	1930	Under con	struction					
		1931	1,618	245	91	8	6	1,968	3,383
6	South limits of Orillia	1930	2,116	296	91	36	23	2,562	3,976
		1931	2,105	280	277	8	23	2,693	3,787
7	At junction of Sparrow Lake Road	1930	1,546	326	87	4	6	1,969	3,085
		1931	1,577	287	122	4	6	1,996	3,359

Highway No. 11

TORONTO-SEVERN HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Lansing Corner	1930	6,527	99	1,140	25	25	7,816	13,718
		1931	7,917	94	890	33	26	8,960	14,435
2	Langstaff Corner	1930	5,888	109	757	28	29	6,811	15,026
		1931	6,814	102	743	33	10	7,702	14,369
3	Top of S. Holland Landing Hill	1930	1,800	48	148	8	6	2,010	5,057
		1931	2,477	66	188	11	3	2,745	5,820
4	South of Barrie	1930	1,491	42	109	7	6	1,655	3,701
		1931	2,134	57	148	11	7	2,357	4,834
5	Crown Hill	1930	990	49	57	6	7	1,109	2,378
		1931	1,479	56	96	6	8	1,645	3,183
6	South limits of Orillia	1930	1,411	46	185	23	49	1,714	2,660
		1931	1,919	70	231	23	29	2,272	3,826
7	South of Washago at Sparrow Lake Road	1930	832	43	174	....	5	1,054	1,993
		1931	1,168	76	95	....	9	1,348	2,570

WHITBY-ORILLIA HIGHWAY

Highway No. 12

Traffic Census—Summer

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	South of Brooklin	1930	1,916	114	166	12	10	2,218	4,652
		1931	1,806	98	178	10	6	2,098	4,478
2	Manchester Corners	1930	1,617	74	116	18	8	1,833	3,866
		1931	1,559	83	121	17	6	1,786	4,141
3	At junction of Highway No. 7	1930	1,235	74	72	12	10	1,403	2,771
		1931	1,384	68	65	8	8	1,533	3,057
4	South of Beaverton, junction of Sutton Road	1930	420	25	31	....	20	496	731
		1931	552	21	25	....	12	610	1,213
5	South end of Atherley Bridge	1930	1,390	131	128	1	17	1,667	2,241
		1931	1,634	93	135	....	15	1,877	2,852
6	At junction of County Road No. 49, at Concessions 7 and 8, Thorah Township	1930	899	45	55	....	7	1,006	1,593
		1931	691	39	36	....	8	774	1,702

Highway No. 12

WHITBY-ORILLIA HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	South of Brooklin	1930	1,369	27	178	8	14	1,596	3,823
		1931	1,652	29	171	12	8	1,872	3,791
2	Manchester Corners	1930	1,071	12	114	14	8	1,219	3,170
		1931	1,418	14	128	15	7	1,582	3,881
3	At junction of Highway No. 7 (traffic north of)	1930	837	10	61	7	48	963	2,360
		1931	1,136	5	68	8	6	1,223	2,891
4	South of Beaverton, at Sutton Road	1930	278	2	27	....	39	346	558
		1931	354	4	25	....	14	397	694
5	South end of Atherley Bridge	1930	848	18	77	....	16	959	1,818
		1931	929	15	91	....	10	1,045	2,563
6	Junction of County Road No. 49 at Concessions 7 and 8, Thorah Township	1930	380	7	46	....	7	440	1,004
		1931	458	6	35	....	10	509	1,003

Highway No. 14

PICTON-FOXBORO HIGHWAY

Traffic Census—Summer

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Bloomfield	1930	886	40	189	7	108	1,230	1,644
		1931	923	49	166	9	90	1,237	1,775
2	Rossmore	1930	987	66	137	4	11	1,205	1,727
		1931	866	39	304	4	14	1,227	1,606
3	North limits of Belleville	1930	1,348	58	158	32	36	1,632	2,004
		1931	1,323	52	182	34	29	1,620	2,015
4	Foxboro	1930	409	21	53	2	12	497	629
		1931	482	29	65	2	12	590	750
5	South limits of Marmora	1930	1,086	84	85	18	42	1,315	1,986
		1931	1,299	147	158	17	66	1,687	1,935

Highway No. 14

PICTON-FOXBORO HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Bloomfield	1930	928	6	175	10	36	1,155	1,634
		1931	840	7	140	9	35	1,031	1,161
2	Rossmore	1930	774	17	116	5	9	921	1,534
		1931	941	12	141	6	9	1,109	1,353
3	North limits of Belleville	1930	916	9	124	5	11	1,065	1,385
		1931	725	10	82	4	6	827	1,072
4	Foxboro	1930	381	6	41	2	9	439	730
		1931	358	6	48	2	8	422	532
5	South limits of Marmora	1930	784	20	103	21	79	1,007	1,147
		1931	1,057	12	106	15	53	1,243	1,567

Highway No. 15

KINGSTON-OTTAWA HIGHWAY

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Barriefield	1930	1,017	149	114	3	15	1,298	1,432
		1931	1,192	197	96	5	21	1,511	1,792
2	Seeley's Bay	1930	543	128	45	2	12	730	992
		1931	581	123	51	4	9	768	1,045
3	Lombardy	1930	827	71	94	2	94	1,088	1,408
		1931	775	75	50	2	87	989	1,425
4	Lot 7, Concession 3, Drummond Township	1930	298	31	28	....	13	370	548
		1931	338	27	23	....	11	399	615
5	Carleton Place, junction of Smith's Falls-Carleton Place Road	1930	502	40	44	....	14	600	875
		1931	594	36	136	2	12	780	1,235
6	Bell's Corners	1930	1,226	89	124	1	15	1,455	2,391
		1931	1,063	79	105	1	26	1,274	2,236

Highway No. 15

KINGSTON-OTTAWA HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Barriefield	1930	1,063	70	110	2	19	1,264	3,078
		1931	1,106	57	121	6	33	1,323	1,531
2	Seeley's Bay	1930	479	44	44	2	11	580	963
		1931	572	22	44	2	10	650	996
3	Lombardy	1930	718	21	47	2	73	861	1,417
		1931	624	23	50	2	78	777	1,049
4	Lot 7, Concession 3, Drummond Township	1930	273	9	15	....	16	313	575
		1931	280	8	18	....	17	323	419
5	Carleton Place, junction of Smith's Falls Road	1930	516	17	40	....	21	594	1,130
		1931	531	18	128	....	22	699	1,066
6	Bell's Corners	1930	1,065	44	104	1	21	1,235	2,459
		1931	928	38	146	....	24	1,136	1,731

JOHNSTOWN-OTTAWA HIGHWAY

Highway No. 16

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Johnstown Corners	1930	900	443	59	10	14	1,426	2,686
		1931	943	389	72	9	10	1,423	3,001
2	Concessions 1 and 2, Oxford Township	1930	767	243	67	9	9	1,095	1,736
		1931	776	229	68	9	11	1,093	1,670
3	At Lot 35, Concession B, Rideau Front	1930	2,426	252	142	16	15	2,851	3,665
		1931	2,520	426	276	12	16	3,250	4,419

JOHNSTOWN-OTTAWA HIGHWAY

Highway No. 16

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Johnstown Corners	1930	638	191	426	6	10	1,271	1,683
		1931	608	165	64	7	5	849	1,239
2	Concessions 1 and 2, Oxford Township	1930	629	134	58	6	13	840	1,682
		1931	602	126	55	8	11	802	1,305
3	At Lot 35, Concession B, Rideau Front	1930	1,802	160	143	8	17	2,130	4,051
		1931	1,409	198	210	9	15	1,841	2,256

PEMBROKE-POINT FORTUNE HIGHWAY

Highway No. 17

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Beachburg Road, Concessions 1 and 2, Ross Twp.	1930	385	40	37	1	39	502	676
		1931	550	59	54	....	42	705	1,288
2	At Government Road Crossing	1930	460	51	31	8	7	551	845
		1931	497	56	43	....	8	604	942
3	Lot 21, Concession 1, Adamston Township	1930	753	50	167	....	32	1,002	1,104
		1931	522	72	51	1	5	651	816
4	At junction of Forks Road, one-half mile west of Arnprior	1930	460	57	44	3	21	585	768
		1931	506	71	54	....	22	653	994
5	Lots 20, 21, Concession 3 and 4, Fitzroy Township	1930	626	63	65	2	10	766	993
		1931	696	70	69	2	6	843	1,359
6	Lots 15, 16, Concessions 3 and 4, March Township	1930	686	45	95	7	16	849	1,272
		1931	1,101	90	90	7	11	1,299	2,730
7	Intersection of Main Street, Westboro and Carling Avenues	1930	1,897	82	165	....	35	2,179	2,834
		1931	1,963	95	171	....	29	2,258	3,400
8	Quarries	1930	1,049	345	229	14	44	1,681	2,145
		1931	1,056	328	196	8	40	1,628	2,476
9	One mile west of Alfred	1930	419	294	42	7	85	847	1,381
		1931	386	301	55	6	88	836	1,377
10	Point Fortune	1930	310	381	47	6	30	774	1,279
		1931	289	410	46	4	27	776	1,395

Highway No. 17

PEMBROKE-POINT FORTUNE HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Beachburg Road, Lot 7, Concessions 1 and 2, Ross Township	1930	401	16	36	....	41	494	752
		1931	446	22	55	....	39	562	708
2	Junction of Government Road Crossing	1930	560	50	46	....	14	670	1,039
		1931	454	28	45	....	12	539	684
3	Lot 21, Concession 1, Admaston Township	1930	470	29	80	....	11	590	1,013
		1931	480	28	47	....	9	564	706
4	One-half mile west of Arnprior, junction of Forks Road	1930	427	31	39	2	32	531	780
		1931	673	38	46	....	46	803	1,054
5	Lots 20, 21, Concessions 3 and 4, Fitzroy Township	1930	671	36	55	2	11	775	1,546
		1931	708	27	73	2	10	820	1,024
6	Lots 15, 16, Concessions 3 and 4, March Township	1930	749	47	239	5	15	1,055	2,201
		1931	834	42	77	6	8	967	1,588
7	Intersection of Main Street, Westboro and Carling Avenues	1930	1,615	258	350	....	66	2,289	3,815
		1931	1,519	72	165	....	37	1,793	2,689
8	Quarries	1930	1,341	309	259	8	53	1,970	3,573
		1931	1,061	287	199	10	42	1,599	2,218
9	One mile west of Alfred	1930	381	214	47	6	87	735	1,421
		1931	387	280	52	4	92	815	1,247
10	Point Fortune	1930	268	290	44	3	26	631	1,300
		1931	316	306	43	2	22	689	1,149

WINDSOR-TILBURY HIGHWAY

Highway No. 18

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	St. Joachim (combined east and west bound traffic)	1931	872	263	118	2	19	1,274	2,267

WINDSOR-TILBURY HIGHWAY

Highway No. 18

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	St. Joachim (combined east and west bound traffic)	1930	873	253	190	....	107	1,423	3,513
		1931	903	178	104	3	125	1,311	2,011

PORT BURWELL TO SHAKESPEARE HIGHWAY

Highway No. 19

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Straffordville	1931	552	11	83	4	19	669	1,102
2	At Salford	1930	736	43	99	6	59	943	1,210
		1931	706	53	291	6	70	1,126	1,434
3	At Hickson's Corner	1930	713	40	169	....	20	942	844
		1931	667	21	112	....	23	823	1,131

INGERSOLL-TILLSONBURG HIGHWAY

Highway No. 19

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Straffordville	1931	427	4	65	....	16	512	634
2	Salford	1930	645	40	96	5	53	839	1,075
		1931	755	48	115	5	65	988	1,182
3	Hickson's Corners (moved from junction of County Road No. 17, to County Road No. 16 in 1931)	1930	750	8	111	....	27	896	1,196
		1931	424	9	67	....	37	537	609

Highway No. 20

HAMILTON-NIAGARA FALLS HIGHWAY, Via Smithville

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At junction of Smithville-Grimsby Road	1930	393	31	79	....	15	518	765
		1931	459	30	84	....	9	582	1,048
2	At St. Ann's, St. Ann's-Smithville traffic	1930	276	19	45	....	10	350	566
		1931	245	16	46	....	9	316	641
2a	At St. Ann's, St. Ann's-Wellandport traffic	1930	303	20	55	....	9	387	623
		1931	351	19	84	....	10	464	788
3	Wellandport	1930	311	23	44	....	12	390	663
		1931	403	29	37	....	8	477	844
4	Junction of St. Catharines Road	1930	2,032	770	368	14	7	3,191	5,241
		1931	2,002	718	408	11	2	3,141	4,736
5	Junction of Montrose Road	1930	1,906	913	280	13	17	3,129	5,145
		1931	2,075	727	252	15	12	3,081	5,153

Highway No. 20

HAMILTON-NIAGARA FALLS HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Smithville-Grimsby Road at junction of Smithville-Grimsby Road	1930	330	24	81	....	18	453	680
		1931	261	11	67	....	9	348	442
2	Smithville Road at St. Ann's	1930	294	14	48	....	9	365	721
		1931	158	1	32	....	9	200	260
2a	Wellandport Road at St. Ann's	1930	315	16	72	....	10	413	787
		1931	238	3	49	....	8	298	427
3	Smithville Road at Wellandport	1930	500	39	62	....	17	618	1,266
		1931	364	18	48	....	9	439	627
4	Junction of St. Catharines Road	1930	1,804	387	309	9	4	2,513	4,114
		1931	1,960	350	377	10	6	2,703	3,487
5	Junction of Montrose Road	1930	1,841	420	256	14	13	2,544	4,916
		1931	1,791	290	319	15	21	2,436	3,010

MORPETH TO HIGHWAY No. 7

Highway No. 21

Traffic Census—Summer

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Morpeth	1930	688	176	69	7	7	947	1,268
		1931	520	119	61	7	4	711	1,147
2	At junction of Ridgetown-Highgate Road	1930	532	34	71	....	11	648	791
		1931	514	33	62	....	9	618	842
3	At junction of Townline Road between Camden and Chatham Townships	1930	Not taken						
		1931	352	26	50	....	11	439	691
4	At Reece's Corner	1930	253	132	17	....	5	407	742
		1931	480	38	39	....	10	567	922

MORPETH TO HIGHWAY No. 7, Via Dresden

Highway No. 21

Traffic Census—Fall

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Morpeth	1930	360	31	42	7	5	445	608
		1931	309	34	45	6	4	398	564
2	Intersection of Ridgetown-Highgate Road	1930	922	64	57	....	18	1,061	2,193
		1931	938	31	72	....	17	1,058	2,105
3	Junction of Townline Road between Camden and Chatham Townships	1930	361	34	66	4	41	506	749
		1931	347	16	64	....	23	450	592
4	Reece's Corners	1930	594	34	51	....	16	695	1,327
		1931	476	23	39	....	11	549	777

LONDON TO HIGHWAY No. 7, Via Strathroy

Highway No. 22

Traffic Census—Summer

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Poplar Hill	1930	752	486	67	2	6	1,313	1,924
		1931	784	382	74	4	4	1,248	1,983
2	At junction of Kerwood Road	1930	586	457	94	8	20	1,165	1,613
		1931	572	332	81	9	15	1,009	1,455
3	At junction of Highway No. 4, north of London	1930	248	213	44	....	9	514	680
		1931	801	321	81	3	3	1,209	1,629

LONDON TO HIGHWAY No. 7, Via Strathroy

Highway No. 22

Traffic Census—Fall

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Poplar Hill	1930	742	191	76	4	5	1,018	1,697
		1931	985	229	100	4	5	1,323	2,394
2	Junction of Kerwood Road	1930	590	168	83	6	8	855	1,247
		1931	669	206	85	8	8	976	1,397
3	North of London at Highway No. 4	1930	831	147	77	4	7	1,066	1,947
		1931	1,019	168	89	4	3	1,283	2,284

MITCHELL-TEVIOTDALE HIGHWAY

Highway No. 23

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Bornholm	1930	403	22	54	....	25	504	625
		1931	381	19	64	....	32	496	639
2	Cowanstown	1930	587	26	90	....	32	735	721
		1931*	480	14	50	....	25	569	694
3	Teviotdale	1930	313	13	36	1	14	377	538
		1931	Under construction						

*Construction work to north.

MITCHELL-TEVIOTDALE HIGHWAY

Highway No. 23

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Bornholm	1930	529	9	65	....	40	643	1,034
		1931	453	12	69	....	31	565	683
2	Cowanstown	1930	481	10	76	....	28	595	815
		1931	534	8	47	....	20	609	738
3	Teviotdale	1930	315	5	35	....	8	363	692
		1931	Under construction						

Highway No. 24

SIMCOE-GUELPH HIGHWAY

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	North of Waterford	1930	550	37	65	1	10	663	1,249
		1931	1,023	58	262	....	30	1,373	1,858
2	At Oakland	1930	888	42	103	1	11	1,045	1,855
		1931	1,145	34	154	....	9	1,342	2,360
3	At junction of Highway No. 5	1930	536	16	84	8	4	648	955
		1931	738	15	93	7	3	856	1,387
4	At junction of Preston Road	1930	1,265	49	167	8	7	1,496	2,204
		1931	994	31	159	8	15	1,207	1,715

Highway No. 24

SIMCOE-GUELPH HIGHWAY, Via Brantford, Paris

Traffic Census—Fall

DAILY AVERAGE

	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	North of Waterford	1930	1,185	20	202	....	47	1,454	1,702
		1931	1,235	33	249	....	50	1,567	1,888
2	Oakland	1930	956	13	150	....	10	1,129	1,862
		1931	977	16	148	....	13	1,154	1,526
3	At junction of Highway No. 5	1930	578	5	84	8	4	679	1,385
		1931	1,167	26	121	8	7	1,329	2,134
4	Junction of Preston Road	1930	526	11	118	1	6	662	864
		1931	1,075	11	140	8	14	1,248	1,524

PARIS-GALT HIGHWAY

Highway No. 24a

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Guthrie's Corner, Paris	1930	483	38	49	1	25	596	820
		1931	487	21	41	....	16	565	934
2	At junction of Ayr Road	1930	392	45	27	....	5	469	826
		1931	400	24	35	....	5	464	860

PARIS-GALT HIGHWAY

Highway No. 24a

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Guthrie's Corner, Paris	1930	490	16	102	....	20	628	802
		1931	Under con	struction	....	....	....	....	....
2	At junction of Ayr Road	1930	495	22	50	1	5	573	1,049
		1931	Under con	struction	....	....	....	....	....

PALERMO-MILTON HIGHWAY

Highway No. 25

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Boyne	1930	364	16	102	4	4	490	568
		1931	460	6	111	4	3	584	903

PALERMO-MILTON HIGHWAY

Highway No. 25

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Boyne	1930	329	8	113	4	10	464	619
		1931	434	4	114	4	2	558	730

BARRIE-OWEN SOUND HIGHWAY

Traffic Census—Summer

Highway No. 26

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Midhurst	1930	917	62	49	5	14	1,047	1,881
		1931	1,057	54	81	3	3	1,198	2,439
2	Sunnidale Corners	1930	561	36	31	6	14	648	1,092
		1931	547	28	41	1	8	625	1,079
3	North of Stayner	1931	1,322	204	101	4	14	1,645	2,880
4	Lot 31, Collingwood Township	1930	522	53	49	1	19	644	732
		1931	612	28	56	1	17	714	1,208
5	Woodford	1931	536	32	30	1	9	608	921

BARRIE-OWEN SOUND HIGHWAY

Traffic Census—Fall

Highway No. 26

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Midhurst	1930	418	9	60	....	7	494	681
		1931	985	4	88	5	7	1,089	2,016
2	Sunnidale Corners	1930	386	4	27	1	16	434	779
		1931	461	5	37	....	15	518	781
3	Lot 34, north of Stayner	1931	719	100	88	1	14	922	1,511
4	Lot 31, Collingwood Township	1930	480	2	88	....	27	597	898
		1931	496	2	101	....	26	625	818
5	Woodford	1931	456	1	35	....	9	501	669

BARRIE-MIDLAND-PENETANGUISHENE HIGHWAY

Highway No. 27

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Midhurst	1930 1931	673 529	46 22	25 32	1 2	4 1	749 586	1,417 1,387

BARRIE-MIDLAND-PENETANGUISHENE HIGHWAY

Highway No. 27

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Midhurst	1930 1931	232 477	3 1	33 37	 5	3 2	271 522	436 981

PORT HOPE-PETERBOROUGH HIGHWAY

Highway No. 28

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At junction of Welcome Road	1930	1,329	208	110	15	24	1,686	3,221
		1931	1,355	157	124	16	19	1,671	3,011
2	South of Peterborough	1930	996	174	121	2	10	1,303	2,316
		1931	973	143	110	7	7	1,240	2,244

PORT HOPE-PETERBOROUGH HIGHWAY

Highway No. 28

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Intersection of Welcome Road	1930	1,013	40	118	15	17	1,203	2,628
		1931	1,242	35	141	18	20	1,456	2,389
2	South of Peterborough at Concessions 7 and 8, Monaghan Township	1930	947	28	107	5	5	1,092	2,276
		1931	1,098	43	190	4	9	1,344	2,035

BROCKVILLE-ARNPRIOR HIGHWAY, Via Smith's Falls and Carleton Place

Highway No. 29

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Forthon	1930	518	45	64	6	7	640	2,008
		1931	280	47	43	4	4	378	554
2	Toledo	1930	718	81	99	10	27	935	2,347
		1931	594	86	61	11	27	779	1,230
3	Lots 2, 3, Concession 9, Ramsay Township	1930	526	20	53	....	17	616	854
		1931	687	29	51	2	14	783	1,972
4	Lots 20, 21, Concession 9, Ramsay Township	1930	294	20	45	....	21	380	456
		1931	278	19	37	2	10	346	506
5	Pakenham	1930	352	27	48	....	83	510	589
		1931	365	25	50	....	73	513	729

BROCKVILLE-ARNPRIOR HIGHWAY, Via Smith's Falls and Carleton Place

Highway No. 29

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Forthen	1930	238	12	39	3	7	299	576
		1931	269	10	43	4	6	332	450
2	Toledo	1930	539	29	54	6	31	659	1,181
		1931	378	27	51	4	19	479	615
3	Concession 9, Lots 2, 3, Ramsay Township	1930	442	11	43	....	16	512	620
		1931	475	8	51	....	12	546	704
4	Concession 9, Lots 20, 21, Ramsay Township	1930	280	9	36	....	14	339	632
		1931	279	8	56	....	13	356	433
5	Pakenham	1930	350	14	38	....	66	468	760
		1931	362	9	49	....	73	493	656

BRIGHTON-CAMPBELLFORD HIGHWAY

Highway No. 30

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At junction of Warkworth Road.................	1931	357	29	50	2	11	449	723

BRIGHTON-CAMPBELLFORD HIGHWAY

Highway No. 30

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At junction of Warkworth Road.................	1931	473	7	75	3	11	569	1,189

MORRISBURG-CARLETON COUNTY LINE HIGHWAY

Highway No. 31

Traffic Census—Summer

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Morrisburg	1930	573	154	81	3	59	870	1,319
		1931	622	153	83	3	57	918	1,093
2	South of Winchester	1930	630	64	76	2	99	871	1,022
		1931*	509	55	76	2	89	731	1,034

*Under construction to north.

MORRISBURG NORTH HIGHWAY

Highway No. 31

Traffic Census—Fall

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Morrisburg	1930	609	142	96	2	44	893	1,160
		1931	1,021	362	148	3	42	1,576	2,131
2	South of Winchester	1930	719	57	102	2	92	972	1,420
		1931	730	59	109	3	179	1,080	1,547

GANANOQUE-SEELEY'S BAY HIGHWAY

Highway No. 32

Traffic Census—Summer

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	North limits of Gananoque	1930	368	60	48	....	23	499	581
		1931	304	56	40	....	28	428	528

GANANOQUE-SEELEY'S BAY HIGHWAY

Highway No. 32

Traffic Census—Fall

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	North limits of Gananoque	1930	404	17	58	....	38	517	589
		1931	272	9	54	....	30	365	443

Highway No. 33

TRENTON-STIRLING HIGHWAY

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Frankford	1931	472	19	84	....	38	613	774

Highway No. 33

TRENTON-STIRLING HIGHWAY

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Frankford	1931	454	6	72	....	43	575	682

LANCASTER-HAWKESBURY HIGHWAY

Highway No. 34

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Lancaster	1930	357	105	53	1	29	545	776
		1931	470	157	75	....	45	747	1,083
2	At McCrimmon	1930	195	25	19	1	101	341	394
		1931	263	28	23	....	86	400	974

LANCASTER-HAWKESBURY HIGHWAY

Highway No. 34

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	At Lancaster	1930	382	83	121	1	30	617	847
		1931	345	48	111	....	45	549	629
2	At McCrimmon	1930	149	12	18	....	41	220	288
		1931	179	21	17	....	82	299	334

LINDSAY-FENELON FALLS HIGHWAY

Highway No. 35

Traffic Census—Summer

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Near Shier's Bridge	1930	793	29	49	2	5	878	1,085
		1931	677	27	55	1	3	763	1,143

LINDSAY-FENELON FALLS HIGHWAY

Highway No. 35

Traffic Census—Fall

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Near Shier's Bridge	1930	451	5	34	1	2	493	878
		1931	526	2	46	1	10	585	1,021

LINDSAY-BOBCAYGEON HIGHWAY

Highway No. 36

Traffic Census—Summer

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Junction of Downeyville Road at Dunsford.......	1930	379	36	27	7	8	457	832
		1931	606	77	38	....	32	753	1,200

LINDSAY-BOBCAYGEON HIGHWAY

Highway No. 36

Traffic Census—Fall

Daily Average

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
1	Junction of Downeyville Road at Dunsford.......	1930	329	8	20	....	28	385	640
		1931	421	13	34	....	29	497	691

SUMMER TRAFFIC CENSUS

DAILY AVERAGE

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Peace Bridge....	Going into United States...............	1930	1,819	43,355	222	531	15	45,942	
		1931	1,849	42,610	229	570	....	45,258	
	Coming into Canada..................	1930	1,736	46,498	232	596	8	49,070	
		1931	2,048	46,929	217	565	18	49,777	
	Total for 1 week, July 9th-15th.....	1930	3,555	89,853	454	1,127	23	95,012	
		1931	3,897	89,539	446	1,135	18	95,035	
	Daily Average....................	1930	508	12,837	65	161	3	13,574	19,059
	Daily Average....................	1931	557	12,791	64	163	2	13,577	17,188

FALL TRAFFIC CENSUS

DAILY AVERAGE

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Peace Bridge....	Going into United States...............	1930	1,989	16,475	127	324	....	18,915	
		1931	2,413	14,633	101	317	2	17,466	
	Coming into Canada..................	1930	2,202	19,681	130	349	....	22,362	
		1931	2,420	14,248	117	327	2	17,114	
	Total for 1 week, Oct. 8th-14th.....	1930	4,191	36,156	257	673	....	41,277	
	Total for 1 week, Oct. 7th-13th.....	1931	4,833	28,881	218	644	4	34,580	
	Daily Average....................	1930	599	5,165	37	96	....	5,897	9,523
	Daily Average....................	1931	691	4,125	32	92	....	4,940	7,266

SUMMER TRAFFIC CENSUS

Daily Average

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Upper Niagara Falls Bridge..	Going into United States..............	1930	3,657	12,832	103	119	7	16,718	
		1931	3,447	10,554	84	39	4	14,128	
	Coming into Canada.................	1930	6,007	14,171	100	77	5	20,360	
		1931	3,019	11,334	71	37	3	14,464	
	Total for 1 week, July 9th-15th....	1930	9,664	27,003	203	196	12	37,078	
	Total for 1 week, July 8th-14th....	1931	6,466	21,888	155	76	7	28,592	
	Daily Average..................	1930	1,381	3,858	29	28	2	5,298	5,944
	Daily Average..................	1931	923	3,137	22	10	2	4,084	5,160

FALL TRAFFIC CENSUS

Daily Average

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Upper Niagara Falls Bridge..	Going into United States..............	1930	3,372	6,152	92	55	....	9,671	
		1931	3,178	5,618	50	33	1	8,880	
	Coming into Canada.................	1930	5,723	9,990	71	62	....	15,846	
		1931	3,711	5,970	52	36	....	9,769	
	Total for 1 week, October 8th-14th..	1930	9,095	16,142	163	117	....	25,517	
	Total for 1 week, October 7th-13th..	1931	6,889	11,588	102	69	1	18,649	
	Daily Average..................	1930	1,299	2,306	23	17	....	3,645	5,211
	Daily Average..................	1931	984	1,656	14	10	....	2,664	3,673

SUMMER TRAFFIC CENSUS

DAILY AVERAGE

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Lower Niagara Falls Bridge..	Going into United States..............	1930	4,145	9,370	274	187	23	13,999	
		1931	3,727	7,506	248	162	12	11,655	
	Coming into Canada.................	1930	4,412	8,635	331	168	30	13,576	
		1931	3,724	7,340	250	162	13	11,489	
	Total for 1 week, July 9th-15th....	1930	8,557	18,005	605	355	53	27,575	
	Total for 1 week, July 8th-14th....	1931	7,451	14,846	498	324	25	23,144	
	Daily Average....................	1930	1,222	2,573	86	51	7	3,939	5,706
	Daily Average....................	1931	1,065	2,121	71	46	4	3,307	4,878

FALL TRAFFIC CENSUS

DAILY AVERAGE

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Lower Niagara Falls Bridge..	Going into United States..............	1930	3,889	6,404	301	172	7	10,773	
		1931	4,097	5,063	188	168	6	9,522	
	Coming into Canada.................	1930	4,104	6,057	322	172	12	10,667	
		1931	4,991	4,881	193	167	6	10,238	
	Total for 1 week, October 8th-14th..	1930	7,993	12,461	623	344	19	21,440	
	Total for 1 week, October 7th-13th..	1931	9,088	9,944	381	335	12	19,760	
	Daily Average....................	1930	1,142	1,780	89	49	3	3,063	4,542
	Daily Average....................	1931	1,298	1,420	55	48	2	2,823	3,897

SUMMER TRAFFIC CENSUS

Daily Average

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Lewiston Bridge.	Going into United States	1930	534	2,491	14	1	....	3,040	
		1931	603	2,639	18	1	6	3,267	
	Coming into Canada	1930	576	2,606	13	1	....	3,196	
		1931	595	2,569	25	4	....	3,193	
	Total for 1 week, July 9th-15th	1930	1,110	5,097	27	2	....	6,236	
	Total for 1 week, July 8th-14th	1931	1,198	5,208	43	5	6	6,460	
	Daily Average	1930	158	729	4	....	....	891	1,607
	Daily Average	1931	171	744	6	1	1	923	1,854
	Total for the four Bridges	1930	22,886	139,958	1,289	1,680	88	165,901	
	Total for the four Bridges	1931	12,626	118,756	715	1,262	35	133,394	

FALL TRAFFIC CENSUS

DAILY AVERAGE

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Lewiston Bridge	Going into United States..............	1930	478	1,699	37	....	....	2,214	
		1931	902	232	1	....	....	362	
	Coming into Canada.................	1930	507	1,665	54	....	....	2,226	
		1931	925	1,607	14	7	....	2,553	
	Total for 1 week, October 8th-14th..	1930	985	3,364	91	....	....	4,440	
	Total for 1 week, October 7th-13th..	1931	1,827	3,229	24	10	....	5,090	
		1930	141	481	13	....	....	635	1,297
		1931	261	461	3	1	....	726	1,352
	Total for the four bridges..........	1930	22,264	68,123	1,134	1,134	19	92,674	
	Total for the four bridges..........	1931	22,637	53,642	725	1,058	17	78,079	

CIVIC HOLIDAY TRAFFIC CENSUS

DAILY AVERAGE

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
	HIGHWAY NO. 2:								
1	At Six Corners	1931	1,966	2,057	144	24	2	4,193	4,782
18	Long Branch	1930	12,482	2,452	765	127	24	15,850	16,243
		1931	12,707	2,494	781	103	16	16,101	18,192
19	Danforth Road at junction of Old Markham Road	1930	15,787	641	899	307	64	17,698	19,135
		1931	13,712	619	763	282	39	15,415	20,576
20	Kingston Road at junction of Old Kingston Road	1930	16,342	1,756	648	142	18	18,906	22,596
		1931	16,420	1,388	931	114	32	18,885	24,408
	HIGHWAY NO. 3:								
1	At Maidstone	1930	2,069	3,514	173	6	5	5,767	7,861
		1931	2,269	3,936	175	15	5	6,400	9,467
19	Garrison Road at Ridgeway Road	1930	2,123	14,089	207	78	4	16,501	21,084
		1931	2,141	10,094	130	45	3	12,413	13,963
19a	Ridgeway Road at Garrison Road	1930	2,391	8,747	171	53	4	11,366	12,031
		1931	1,734	6,156	138	45	4	8,077	8,957
	HIGHWAY NO. 5 (Dundas Street):								
1	Islington	1930	7,745	431	368	48	5	8,597	9,065
		1931	11,693	757	821	96	11	13,378	16,217
2	Cooksville	1930	10,192	523	479	31	5	11,230	13,941
		1931	10,894	628	665	27	8	12,222	15,322
	HIGHWAY NO. 8 (Niagara Falls-Goderich):								
1	At South End Corner	1930	5,819	3,766	402	82	13	10,082	11,327
		1931	5,653	3,905	313	72	10	9,953	10,298
5	At the Monument, Saltfleet	1930	7,845	3,947	387	66	3	12,248	13,123
		1931	8,257	3,628	400	84	5	12,374	13,885
	HIGHWAY NO. 11 (Yonge Street):								
1	At Lansing	1930	11,793	812	523	87	19	13,234	13,684
		1931	12,206	631	570	62	12	13,481	15,339
2	At Langstaff	1930	12,981	737	428	86	10	14,242	15,765
		1931	13,493	704	502	62	5	14,766	17,242

CIVIC HOLIDAY TRAFFIC CENSUS

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Peace Bridge....	Going into United States..............	1930	1,503	24,705	95	179	4	26,486	
		1931	1,589	17,122	58	178	5	18,952	
	Coming into Canada..................	1930	1,437	23,828	92	208	16	25,581	
		1931	1,556	18,964	61	181	....	20,762	
	Total for 3 days, Aug. 2nd, 3rd and 4th	1930	2,940	48,533	187	387	20	52,067	
	Total for 3 days, Aug. 1st, 2nd and 3rd	1931	3,145	36,086	119	359	5	39,714	
	Daily Average.....................	1930	980	16,178	63	129	6	17,356	20,716
	Daily Average.....................	1931	1,049	12,029	39	119	2	13,238	14,825
Lower Niagara Falls Bridge..	Going into United States..............	1930	2,523	5,287	101	84	11	8,006	
		1931	2,556	4,054	65	73	4	6,752	
	Coming into Canada..................	1930	2,751	5,472	112	75	9	8,419	
		1931	2,488	3,983	64	73	4	6,612	
	Total for 3 days, Aug. 2nd, 3rd and 4th	1930	5,274	10,759	213	159	20	16,425	
	Total for 3 days, Aug. 1st, 2nd and 3rd	1931	5,044	8,037	129	146	8	13,364	
	Daily Average.....................	1930	1,758	3,586	71	53	7	5,475	6,140
	Daily Average.....................	1931	1,681	2,679	44	48	2	4,454	4,906

CIVIC HOLIDAY TRAFFIC CENSUS

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Upper Niagara Falls Bridge. .	Going into United States.	1930	1,993	5,753	29	48	2	7,825	
		1931	2,321	5,479	30	13	. . . .	7,843	
	Coming into Canada.	1930	2,691	8,468	14	39	3	11,215	
		1931	1,890	5,922	30	14	. . . .	7,856	
	Total for 3 days, Aug. 2nd, 3rd and 4th	1930	4,684	14,221	43	87	5	19,040	
	Total for 3 days, Aug. 1st, 2nd and 3rd	1931	4,211	11,401	60	27	. . . .	15,699	
	Daily Average.	1930	1,561	4,741	14	29	1	6,346	6,931
	Daily Average.	1931	1,404	3,800	20	9	. . . .	5,233	4,668
Lewiston Bridge	Going into United States.	1930	603	1,605	5	. . . .	. . . .	2,213	
		1931	666	1,589	6	. . . .	. . . .	2,261	
	Coming into Canada.	1930	648	1,803	5	1	. . . .	2,457	
		1931	667	1,665	8	1	. . . .	2,341	
	Total for 3 days, Aug. 2nd, 3rd and 4th	1930	1,251	3,408	10	1	. . . .	4,668	
	Total for 3 days, Aug. 1st, 2nd and 3rd	1931	1,333	3,254	14	1	. . . .	4,602	
	Daily Average.	1930	417	1,136	3	. . . .	. . . .	1,556	1,938
	Daily Average.	1931	444	1,085	5	. . . .	. . . .	1,534	1,685

LABOUR DAY HOLIDAY TRAFFIC CENSUS

Station No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
	HIGHWAY NO. 2:								
1	At Six Corners	1931	1,660	2,238	118	11	5	4,032	5,112
18	Long Branch	1930	13,107	6,852	761	162	21	20,903	23,491
		1931	14,276	6,472	812	148	15	21,723	23,884
19	At junction of Markham Road	1930	17,416	1,457	798	320	64	20,055	20,303
		1931	13,177	910	849	284	46	15,266	15,551
20	At junction of Old Kingston Road	1930	14,755	2,784	726	123	17	18,405	20,765
		1931	15,892	2,377	763	130	26	19,188	20,666
	HIGHWAY NO. 3:								
1	At Maidstone	1930	4,004	10,534	327	21	7	14,893	17,743
		1931	2,102	4,221	179	14	7	6,523	7,796
19	Garrison Road at Ridgeway Road	1930	1,519	15,759	134	71	5	17,488	25,851
		1931	1,316	8,480	112	42	1	9,951	12,914
19a	Ridgeway Road at Garrison Road	1930	1,299	8,177	112	53	7	9,648	13,129
		1931	1,189	5,961	107	44	1	7,302	10,110
	HIGHWAY NO. 5:								
1	Islington	1930	11,804	1,977	477	60	5	14,343	20,634
		1931	12,762	1,818	744	53	5	15,382	18,045
2	Cooksville	1930	12,690	2,254	518	41	6	15,509	19,545
		1931	11,468	1,621	765	34	9	13,897	17,017
	HIGHWAY NO. 8:								
1	South End Corner	1930	5,877	8,418	420	82	14	14,811	17,101
		1931	5,497	7,487	379	80	12	13,455	15,061
5	Saltfleet Monument	1930	8,222	9,505	404	74	3	18,208	20,184
		1931	8,516	7,923	622	103	4	17,168	19,475
	HIGHWAY NO. 11:								
1	At Lansing	1930	11,653	1,238	684	52	19	13,646	14,259
		1931	11,594	697	534	42	9	12,876	14,248
2	At Langstaff	1930	10,754	953	508	53	9	12,277	14,323
		1931	11,331	716	455	39	4	12,545	14,561
	HIGHWAY NO. 18:								
2	At St. Joachim	1930	1,297	818	81	1	14	2,211	2,632
		1931	1,439	693	69	2	17	2,220	2,717
	Malvern Cut-off at Highway No. 2	1931	2,047	99	35	....	....	2,181	1,252

LABOUR DAY HOLIDAY TRAFFIC CENSUS, September 5th, 6th ad 7th, 1931

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Lower Niagara Falls Bridge	Going into the States	1930	2,260	7,126	64	89	9	9,548	
	Going into the States	1931	3,864	5,670	66	58	5	9,663	
	Coming into Canada	1930	2,287	6,637	54	70	9	9,057	
	Coming into Canada	1931	2,208	5,656	62	71	5	8,002	
	Total for 3 days	1930	4,547	13,763	118	159	18	18,605	
	Total for 3 days	1931	6,072	11,326	128	129	10	17,665	
	Daily Average	1930	1,516	4,588	39	53	6	6,202	6,717
	Daily Average	1931	2,024	3,775	42	43	4	5,888	6,349
Peace Bridge	Going into United States	1930	1,289	23,667	37	192	....	25,185	
	Going into United States	1931	1,292	19,687	56	180	....	21,215	
	Coming into Canada	1930	889	23,813	58	218	7	24,985	
	Coming into Canada	1931	1,314	20,598	62	198	....	22,172	
	Total for 3 days	1930	2,178	47,480	95	410	7	50,170	
	Total for 3 days	1931	2,606	40,285	118	378	....	43,387	
	Daily Average	1930	726	15,827	31	137	2	16,723	20,541
	Daily Average	1931	869	13,428	40	126	....	14,463	16,324

LABOUR DAY HOLIDAY TRAFFIC CENSUS, September 5th, 6th and 7th, 1931

	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Lewiston Bridge	Going into the States	1930	504	4,039	9	8	....	4,560	
	Going into the States	1931	469	4,016	1	4	....	4,490	
	Coming into Canada	1930	550	3,715	12	2	....	4,279	
	Coming into Canada	1931	456	3,424	....	5	....	3,885	
	Total for 3 days	1930	1,054	7,754	21	10	....	8,839	
	Total for 3 days	1931	925	6,457	1	6	....	5,785	
	Daily Average	1930	351	2,585	7	3	....	2,946	4,476
	Daily Average	1931	309	2,470	....	3	....	2,792	3,486
Upper Niagara Falls Bridge	Going into the States	1930	1,621	12,415	23	46	1	14,106	
	Going into the States	1931	1,724	11,196	30	18	1	12,969	
	Coming into Canada	1930	3,129	14,980	13	34	1	18,157	
	Coming into Canada	1931	1,501	10,640	18	19	2	12,180	
	Total for 3 days	1930	4,750	27,395	36	80	2	32,263	
	Total for 3 days	1931	3,225	21,836	48	37	3	25,149	
	Daily Average	1930	1,584	9,132	12	26	....	10,754	13,836
	Daily Average	1931	1,075	7,279	16	12	1	8,383	10,930

WINTER TRAFFIC CENSUS, 1930 and 1931

(Taken for Three Days in the Second Week of February)

DAILY AVERAGE

Highway No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
2	Six Corners, traffic west of	1931	219	72	40	3	....	334	463
2	Six Corners, traffic east of	1931	221	85	38	3	....	347	366
2	Thamesville, traffic west of	1930	387	93	59	7	9	555	571
		1931	571	90	74	12	4	751	822
2	Thamesville, traffic east of	1930	380	77	58	7	7	529	709
		1931	846	82	94	11	10	1,043	1,114
2	Christina	1930	294	125	63	9	9	500	554
2	Lambeth, traffic northeast of	1931	1,453	88	164	14	7	1,726	1,993
2	Eastwood	1930	523	79	108	8	18	736	844
		1931	652	29	146	6	1	834	1,052
2	Binkley's Subway	1930	1,759	91	331	27	18	2,226	2,713
		1931	1,212	31	266	19	5	1,533	1,574
2	Wolfe Island, junction of Highway No. 6	1931	2,652	17	555	63	5	3,292	3,747
2	Oakville	1930	2,409	38	500	53	3	3,003	3,585
2	Long Branch	1931	3,721	98	656	61	24	4,560	4,976
2	Old Kingston Road, traffic east and west	1931	3,312	38	715	69	11	4,145	4,794
2	West Hill	1930	1,404	13	253	56	2	1,728	2,040
2	Whitby Subway	1931	1,749	9	325	75	6	2,164	2,634
2	Courtice-Newcastle	1930	370	9	59	12	17	467	475
2	Courtice-Newtonville	1931	448	8	92	11	15	574	703
2	Brighton	1930	382	9	70	9	85	555	743
2	Grafton	1931	354	9	81	9	34	487	522
2	Bayside	1931	591	9	89	15	23	727	780
2	Napanee-Odessa	1930	441	1	66	12	151	671	950
2	Napanee	1931	461	1	78	11	81	632	683
2	Cataraqui Corner	1931	653	9	92	9	65	828	914
2	Barriefield	1930	348	5	35	10	20	418	485
		1931	404	15	47	12	13	491	577
2	Brockville	1931	331	11	53	5	28	428	502
2	Johnstown Corner	1930	258	7	31	11	28	335	403
		1931	299	26	53	8	29	415	522
2	Morrisburg	1930	161	2	18	7	121	309	380
		1931	314	15	46	7	192	574	740

WINTER TRAFFIC CENSUS, 1930 and 1931

(Taken for Three Days in the Second Week of February)

DAILY AVERAGE

Highway No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
2	Lancaster	1931	133	25	36	....	144	338	427
2a	Six Corners, traffic northeast of	1931	176	60	21	11	....	268	381
3	Maidstone, traffic northwest of	1931	779	181	85	8	2	1,055	1,379
3	Maidstone, traffic southeast of	1931	784	152	82	4	....	1,022	1,377
3	Morpeth, traffic west of	1930	186	22	17	3	4	232	253
		1931	279	59	28	9	3	378	417
3	Morpeth, traffic east of	1930	176	25	14	3	3	221	251
		1931	241	58	29	3	6	337	373
3	Talbotville	1930	364	16	33	....	19	432	535
		1931	480	32	36	2	6	556	647
3	Courtland	1930	493	25	73	8	46	650	700
		1931	506	32	80	8	16	642	785
3	Jarvis	1931	611	22	87	10	40	770	882
3	Chambers Corners, traffic west of	1930	275	56	37	4	6	378	442
		1931	197	46	26	5	3	278	351
3	Chambers Corners, traffic south of	1930	176	59	20	....	10	265	298
		1931	122	44	15	....	3	184	231
3	Junction of Welland Canal Road	1931	889	131	138	44	24	1,226	1,295
3	Junction of Ridgeway Road	1930	551	520	54	11	3	1,139	1,370
		1931	495	612	66	24	3	1,200	1,373
3a	Chambers Corners, traffic north of	1930	250	16	38	3	5	312	345
		1931	163	27	24	3	1	218	271
3a	Turner's Corners, junction of Highway No. 20	1931	1,096	109	181	9	6	1,401	1,543
4	Talbotville	1930	678	15	64	....	17	774	814
		1931	770	24	70	....	6	870	1,071
4	Elginfield (London traffic)	1930	245	9	50	7	16	327	339
		1931	297	2	50	6	10	365	585
4	Elginfield (Clinton traffic)	1930	99	2	25	....	37	163	179
		1931	154	1	32	1	17	205	324
4	Brucefield-Exeter	1930	50	....	8	....	34	92	110
5	Cooksville	1930	1,252	30	23	8	27	1,520	1,776
		1931	2,646	17	555	15	3	3,236	3,823

WINTER TRAFFIC CENSUS, 1930 and 1931

(Taken for Three Days in the Second Week of February)

DAILY AVERAGE

Highway No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
5	Clappison's Corners	1930	1,228	2	189	12	5	1,436	1,642
		1931	1,246	3	195	12	4	1,460	1,662
6	Jarvis, traffic south of	1931	149	1	20	....	18	188	232
6	Jarvis, traffic north of	1931	500	5	68	8	25	606	719
6	New Caledonia	1930	503	7	81	13	9	613	776
6	Clappison's Corners, traffic north and south of	1930	1,484	1	227	19	9	1,740	2,197
6	Clappison's Corners, traffic south of	1931	1,309	15	199	21	2	1,546	1,688
6	Clappison's Corners, traffic north of	1931	1,282	3	221	19	6	1,531	1,704
6	South of Guelph	1931	351	7	71	12	10	451	551
6	South of Fergus	1930	231	.....	40	3	58	332	416
6	South of Arthur	1931	30	....	6	....	134	170	222
7	Reece's Corners, traffic west of	1931	285	27	18	6	3	339	432
7	Reece's Corners, traffic east of	1931	239	25	23	6	5	298	343
7	Parkhill	1931	224	14	39	3	48	328	463
7	Elginfield (Sarnia traffic)	1930	91	1	11	1	5	109	126
		1931	84	1	15	....	2	102	163
7	Elginfield (Stratford traffic)	1930	160	7	31	6	16	220	246
		1931	149	1	26	5	8	189	282
7	St. Mary's	1931	163	2	27	4	40	236	379
7	Stratford	1931	398	6	77	8	47	536	640
7	West of Baden	1930	361	4	56	7	124	552	740
7	Near Breslau	1930	344	7	59	7	58	475	541
7	Guelph	1930	222	1	41	6	43	313	412
		1931	329	1	50	10	25	415	490
7	Junction of Highway No. 10 north	1930	344	2	120	9	44	519	584
7	Thornhill	1931	468	1	74	1	4	548	676
7	Brooklin	1931	128	....	25	....	2	165	181
7	Sunderland Corners	1930	79	....	8	5	23	115	134
		1931	154	....	17	8	13	192	228
7	Reaboro	1931	123	....	21	4	52	200	205
7	Fowler's Corners	1931	132	....	21	4	17	174	190
7	Indian River	1931	111	....	21	2	11	145	162
7	Preneveau	1931	60	....	3	....	23	86	99

WINTER TRAFFIC CENSUS, 1930 and 1931

(Taken for Three Days in the Second Week of February)

DAILY AVERAGE

High-way No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
7	Deloro	1931	276	....	23	8	40	347	404
8	South End Corner	1930	2,108	347	263	75	18	2,812	3,163
8	Stamford Corner	1931	1,774	295	242	55	10	2,376	2,477
8	Beamsville	1930	1,287	246	208	39	25	1,805	2,229
8	Grimsby Beach Road	1931	970	228	214	27	4	1,443	1,505
8	Stoney Creek	1931	1,546	142	282	29	2	2,001	2,040
8	Binkley's Subway	1930	2,341	35	386	123	8	2,893	3,959
		1931	1,577	26	292	123	8	2,026	2,284
8	South of Galt	1931	793	27	156	14	26	1,016	1,141
8	Near Preston	1930	1,308	14	229	129	74	1,754	2,460
8	Near Mitchell	1930	65	2	19	....	81	167	196
8	Clinton	1931	64	....	21	1	57	143	254
8a	At junction of Beach Road	1930	1,691	71	243	54	....	2,059	2,435
10	Cooksville	1931	1,537	2	343	21	2	1,905	2,360
10	Junction of Highway No. 7	1930	383	2	146	7	52	590	622
10	Near Orangeville	1930	41	....	17	....	85	143	187
		1931	147	....	39	....	36	222	308
11	Lansing	1931	3,444	1	368	26	22	3,861	4,458
11	Thornhill	1931	2,456	10	304	35	7	2,812	3,596
11	Near Aurora	1930	567	2	106	14	14	703	905
11	Near Churchill	1930	175	4	17	7	41	244	294
11	South of Barrie	1931	247	....	34	7	26	314	319
11	South of Orillia	1931	338	3	37	24	54	456	495
12	Brooklin	1931	500	2	86	9	17	614	638
12	Sunderland	1930	87	....	10	5	41	143	152
		1931	184	....	20	9	23	236	269
14	Lots 6 and 7, Concession 4, Ameliasburg Township	1931	250	....	31	3	3	287	303
14	Rossmore	1930	334	....	57	3	33	427	643
14	Foxboro	1930	293	1	28	1	35	358	528
14	Springbrook	1931	195	1	24	1	98	319	355
15	Barriefield	1930	269	3	35	3	43	353	470
15	Seeley's Bay	1931	245	2	22	....	42	311	329

WINTER TRAFFIC CENSUS, 1930 and 1931

(Taken for Three Days in the Second Week of February)

DAILY AVERAGE

Highway No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
15	Lot 7, Concession 3, Drummond Township	1931	66	....	11	....	52	129	149
15	Intersection of Carling and Richmond Road, near Britannia Bay	1930	283	....	78	....	49	410	491
		1931	413	19	107	4	63	606	739
16	Johnstown Corners	1930	146	5	21	5	21	198	236
16	Concessions 1 and 2, Oxford Township	1931	125	14	27	5	62	233	280
16	Base Line Road, Intersection (Scale House)	1930	273	7	44	4	10	338	344
		1931	304	18	45	6	23	396	410
17	Near Britannia Bay	1930	152	....	45	1	30	228	310
		1931	262	10	70	5	38	385	416
17	Scale House, east of Ottawa	1930	208	2	63	9	102	384	504
		1931	235	32	68	7	74	416	519
18	St. Joachim, traffic west of	1931	232	42	22	1	6	303	419
18	St. Joachim, traffic east of	1931	220	44	25	1	6	296	371
19	Salford	1931	263	7	49	3	69	391	587
20	Turner's Corners	1931	985	99	158	8	4	1,254	1,385
21	Morpeth	1930	254	8	45	7	4	318	399
		1931	214	2	32	8	7	263	304
21	Thamesville, traffic north and south of	1930	300	12	43	2	25	382	479
21	Thamesville, traffic north of	1931	302	4	23	1	13	343	369
21	Thamesville, traffic south of	1931	474	4	38	....	17	533	679
21	Oil Springs	1930	233	5	28	....	19	285	331
21	Reece's Corners	1930	203	15	26	5	46	295	317
		1931	233	6	15	....	10	264	333
22	Poplar Hill	1930	210	14	20	1	29	274	333
		1931	233	26	28	2	3	292	358
24	Waterford	1930	271	25	30	....	56	382	477
		1931	490	2	73	....	33	598	838
26	Woodford	1931	54	....	17	....	....	71	80
28	Baillieboro	1930	182	1	34	2	25	244	289
		1931	247	2	34	5	20	308	336

WINTER TRAFFIC CENSUS, 1930 and 1931

(Taken for Three Days in the Second Week of February)

DAILY AVERAGE

High-way No.	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
29	Just north of Brockville	1930	61	1	16	3	46	127	188
29	Forthon	1931	65	2	18	3	26	114	147
30	Lot 3, Concession 8, Brighton Township	1931	121	1	23	....	32	177	209
31	Morrisburg	1930	131	3	13	....	133	280	364
31	Winchester	1931	275	3	56	2	378	714	984
32	Gananoque	1931	86	....	6	....	142	234	291
33	Sidney Township	1931	62	....	2	2	6	72	89

WINTER TRAFFIC CENSUS, 1931

DAILY AVERAGE

Station	Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
			Ontario	Foreign					
Peace Bridge....	Going into United States..............	1931	170	1,227	7	40	....	1,444	1,652
	Coming into Canada.................	1931	174	1,175	....	13	39	1,401	1,897
	Total.........................	1931	344	2,402	7	53	39	2,845	3,549
Lower Niagara Falls Bridge..	Going into United States..............	1931	456	486	26	22	2	992	1,173
	Coming into Canada.................	1931	476	497	28	24	2	1,027	1,188
	Total.........................	1931	922	983	54	46	4	2,009	2,361
Upper Niagara Falls Bridge..	Going into United States..............	1931	310	424	7	4	....	745	838
	Coming into Canada.................	1931	355	361	4	4	....	724	774
	Total.........................	1931	665	785	11	8	....	1,469	1,612
Lewiston Bridge	Going into United States..............	1931	27	52	1	....	....	80	111
	Coming into Canada.................	1931	28	52	1	....	....	81	106
	Total.........................	1931	55	104	2	....	....	161	217
	Total for the Four Bridges.........	1931	1,986	4,274	74	107	43	6,384	7,739
Special.........	Niagara Boulevard at Black Creek	1931	238	152	43	15	36	484	550

Appendix No. 12

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
BRANT COUNTY—SUMMER:								
Brant 1a—Townline Road at junction of Cockshutt Road	1930	275	11	35	....	4	325	577
	1931	61	1	8	....	3	73	129
Brant 1b—Cockshutt Road at junction of Townline Road	1930	315	11	36	....	5	367	650
	1931	261	6	28	....	7	302	450
Brant 3a—Burford Road at New Durham Road	1930	306	18	88	5	5	422	481
	1931	390	23	147	4	2	566	640
Brant 3b—New Durham Road at Burford Road	1930	114	7	33	4	1	159	209
	1931	165	5	46	4	....	220	329
2-14a—Onondaga Road at Cainsville	1930	369	16	44	6	10	445	776
	1931	302	12	50	2	10	376	587
24-2a—Scotland Road at Oakland	1930	480	12	68	....	7	567	766
	1931	448	8	70	....	6	532	670
BRANT COUNTY—FALL:								
Brant 1a—Townline Road at junction of Cockshutt Road	1930	88	1	17	....	9	115	159
	1931	102	2	18	....	8	130	199
Brant 1b—Cockshutt Road at Townline Road	1930	194	3	26	....	12	235	406
	1931	196	3	26	....	11	236	304
Brant 3a—Burford Road at New Durham Road	1930	343	11	82	4	7	447	721
	1931	462	15	83	4	3	567	1,013
Brant 3b—New Durham Road at Burford Road	1930	142	1	37	4	2	186	291
	1931	225	6	41	3	1	276	465
2-14a—Onondaga Road at Cainsville	1930	379	6	46	6	12	449	905
	1931	384	6	69	4	10	473	666
24-2a—Scotland Road at Oakland	1930	459	3	80	....	7	549	747
	1931	441	6	81	....	9	537	700
BRUCE COUNTY—SUMMER:								
Bruce 1a—15 Sideroad, Township of Annabel at Sauble Road	1930	70	6	25	....	5	106	161
	1931	54	2	1	....	4	61	121
Bruce 1b—Sauble Road, Township of Annabel at 15th Sideroad	1930	277	22	52	....	12	363	563
	1931	384	10	15	....	6	415	1,086

Bruce 2a—South of Southampton, Southampton-Kincardine Road	1930	483	71	35	3	5	597	827
	1931	485	58	45	2	8	598	884
Bruce 2b—South of Southampton, Paisley Road	1930	297	22	11	....	2	332	376
	1931	251	22	10	....	3	286	406
Bruce 3a—Owen Sound-Southampton Road at junction of Hepworth-Wiarton Road	1930	441	72	38	2	1	554	731
	1931	529	59	86	2	3	679	1,085
Bruce 3b—Hepworth-Wiarton Road at junction of Owen Sound-Southampton Road	1930	237	43	20	....	1	301	400
	1931	330	33	67	....	2	432	844
4-10a—Chesley Road at Hanover Road, Highway No. 4	1930	152	2	11	....	18	183	221
	1931	135	2	11	....	10	158	233
BRUCE COUNTY—FALL:								
Bruce 1a—15 Sideroad, Township of Annabel	1930	44	2	2	....	5	53	94
	1931	29	....	2	....	8	39	72
Bruce 1b—Sauble Road, Township of Annabel at 15th Side-road	1930	112	4	5	....	9	130	255
	1931	83	2	4	....	9	98	167
Bruce 2a—South of Southampton, Southampton-Kincardine Road	1930	275	8	32	1	4	320	466
	1931	297	10	27	....	6	340	429
Bruce 2b—South of Southampton, Paisley Road	1930	183	2	18	....	4	207	309
	1931	151	1	14	....	7	173	242
Bruce 3a—Owen Sound-Southampton Road at junction of Hepworth-Wiarton Road	1930	382	16	42	....	1	441	685
	1931	422	16	34	....	4	476	657
Bruce 3b—Hepworth-Wiarton Road at junction of Owen Sound-Southampton Road	1930	237	6	29	....	1	273	488
	1931	214	10	26	....	4	254	358
Bruce 4a—County Road No. 2 at Pine River	1931	299	14	70	....	5	388	530
Bruce 4b—County Road No. 6 at Pine River	1931	135	1	15	....	3	154	170
4-9a—Chesley Road at Highway No. 4	1930	378	5	31	3	16	433	504
	1931	134	1	6	....	10	151	183
CARLETON COUNTY—SUMMER:								
Carleton 1a—Morrisburg-Ottawa Road at junction of Metcalfe Road	1930	631	59	106	5	35	836	1,149
	1931	635	49	94	4	37	819	1,201
Carleton 1b—Metcalfe Road at Morrisburg-Ottawa Road	1930	343	24	73	4	29	473	537
	1931	401	13	62	4	27	507	776
Carleton 2—Morrisburg-Ottawa Road at Lot 3, Concession 3, Gloucester Township	1930	910	79	149	4	23	1,165	1,381
	1931	894	66	176	2	30	1,168	1,940

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
Carleton 3a—Stittsville-Carp Road at West Huntley Road	1930	339	27	34	....	36	436	670
	1931	189	7	16	....	27	239	338
Carleton 3b—West Huntley Road at Stittsville-Carp Road	1930	25	1	2	....	6	34	45
	1931	18	....	2	....	4	24	35
Carleton 4a—Almonte-Carp Road at Stittsville-Carp Road	1930	145	5	21	....	17	188	436
Carleton 4b—Stittsville-Carp Road at Almonte Carp Road	1930	416	23	41	....	23	503	758
	1931	196	6	17	....	26	245	444
Carleton 5a—Bowesville Road at Townline Road........	1930	59	2	8	....	9	78	111
	1931	51	....	8	....	7	66	97
Carleton 5b—Townline Road between Manotick and Metcalfe at Bowesville Road..................	1930	95	2	10	....	12	119	152
	1931	67	2	10	....	10	89	167
Carleton 6a—Townline Road at River Road.............	1930	219	3	24	1	65	312	365
	1931	223	3	18	....	50	294	494
Carleton 6b—River Road at Townline Road.............	1930	131	1	14	1	41	188	241
	1931	148	1	13	....	39	201	305
Carleton 7a—River Road at Bowesville Road............	1930	243	15	97	....	9	364	476
	1931	263	7	78	....	3	351	491
Carleton 7b—Bowesville Road at River Road............	1930	675	30	42	....	6	753	930
	1931	673	24	48	....	3	748	1,128
Carleton 8a—Franktown Road at Richmond Village	1930	409	21	63	....	25	518	699
	1931	433	17	118	....	14	582	793
Carleton 8b—Richmond Road at Richmond Village......	1930	649	24	77	....	49	799	1,033
	1931	802	23	65	....	40	930	2,168
Carleton 9a—County Road between Lots 6 and 7, east of Bridgeview, traffic north and south.........	1930	50	1	2	....	4	47	91
	1931	28	1	4	....	3	38	66
Carleton 9b—River Road No. 16 east of Bridgeview, traffic east and west..........................	1930	180	12	16	....	13	221	281
	1931	168	10	21	....	14	213	329
15 6a—Richmond Road at Bell's Corners...............	1930	391	17	45	....	7	460	650
	1931	394	20	45	....	8	467	716
17-5a—Galetta Road at Pakenham Road...............	1930	258	11	38	....	10	317	388
	1931	258	14	28	....	6	306	414
17-5b—Pakenham Road at Galetta Road...............	1930	52	2	14	....	5	73	87
	1931	40	2	6	....	3	51	98

17-6a—County Road bet. Lots 15, 16, Concessions 3 and 4, March Township	1930	396	16	46	4	11	473	768
	1931	458	20	34	5	9	526	1,115
CARLETON COUNTY—FALL:								
Carleton 1a—Morrisburg-Ottawa Road at Metcalfe Road	1930	670	59	80	4	32	845	1,621
	1931	662	49	70	4	28	813	1,373
Carleton 1b—Metcalfe Road at Morrisburg-Ottawa Road	1930	359	16	46	4	28	453	752
	1931	333	14	63	4	23	437	488
Carleton 2—Morrisburg-Ottawa Road at Lot 3, Concession 3, Gloucester Township	1930	968	59	167	3	36	1,233	2,232
	1931	1,012	67	167	2	21	1,269	1,786
Carleton 3a—Stittsville-Carp Road at West Huntley Road	1930	278	15	32	1	45	371	510
	1931	126	4	10	...	14	154	206
Carleton 3b—West Huntley Road at Stittsville-Carp Road	1930	18	...	2	...	6	26	30
	1931	19	...	2	...	2	23	36
Carleton 4a—Almonte-Carp Road at Stittsville-Carp Road	1930	175	6	15	...	17	213	383
	1931	164	5	17	...	23	209	268
Carleton 4b—Stittsville-Carp Road at Almonte-Carp Road	1930	356	18	36	1	39	450	698
	1931	216	4	23	...	34	277	334
Carleton 5a—Bowesville Road at Townline Road	1930	63	1	5	...	10	79	123
	1931	42	1	11	...	7	61	76
Carleton 5b—Townline between Manotick and Metcalfe Townships at Bowesville	1930	117	2	32	...	15	166	244
	1931	77	1	15	...	10	103	133
Carleton 6a—Townline Road at River Road	1930	219	1	19	...	55	294	476
	1931	182	2	39	...	52	275	390
Carleton 6b—River Road at Townline Road	1930	159	...	15	...	41	215	358
	1931	136	1	29	...	38	204	255
Carleton 7a—River Road at Bowesville Road	1930	161	5	61	...	9	236	426
	1931	135	3	79	...	6	223	266
Carleton 7b—Bowesville Road at River Road	1930	624	18	55	2	12	711	1,827
	1931	353	9	37	...	16	415	590
Carleton 8a—Franktown Road at Richmond Village	1930	339	8	47	...	21	415	599
	1931	382	9	46	...	22	459	603
Carleton 8b—Richmond Road at Richmond Village	1930	556	12	62	...	48	678	1,028
	1931	592	14	66	...	40	712	971
Carleton 9a—River Road, traffic east and west, east of Bridgeview	1930	39	1	4	...	5	49	73
	1931	33	1	4	...	6	44	62
Carleton 9b—County Road between Lots 6 and 7, east of Bridgeview, traffic north and south	1930	166	8	21	...	11	206	335
	1931	156	6	20	...	13	195	261
15-6a—Richmond Road at Bell's Corners	1930	369	10	35	...	7	421	774
	1931	354	11	90	...	8	463	686

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

Daily Average

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
17-5a—Galetta Road at Lots 20, 21, Concessions 3 and 4, Fitzroy Township	1930	251	11	23	....	11	296	401
	1931	288	7	40	....	8	343	461
17-5b—Pakenham Road at Galetta Road	1930	50	1	6	....	4	61	92
	1931	Not taken						
17-6a—County Road between Lots 15, 16, Concessions 3 and 4, March Township	1930	316	20	127	3	11	477	876
	1931	254	7	28	4	4	297	503
Dufferin County—Summer:								
Dufferin 1a—Hillsburg Road at Reading	1930	116	3	12	2	6	139	213
	1931	193	7	13	....	2	215	366
Dufferin 1b—Fergus-Orangeville Road at Reading	1930	259	16	23	1	7	306	581
	1931	471	30	62	2	6	571	1,110
Dufferin 2a—Primrose-Alliston Road at junction of Marsfield Road	1930	309	13	26	....	20	368	814
	1931	212	3	27	....	13	255	404
Dufferin 2b—Marsfield Road at junction of Primrose-Alliston Road	1930	110	7	14	....	17	148	351
	1931	69	....	15	....	6	90	116
Dufferin County—Fall:								
Dufferin 1a—Hillsburg Road at Reading	1930	125	2	16	....	3	146	278
	1931	129	....	29	....	3	161	227
Dufferin 1b—Fergus-Orangeville Road at Reading	1930	289	6	30	....	3	328	487
	1931	292	4	43	....	5	344	534
Dundas County—Summer:								
Dundas 2a—Crysler Road at Morewood	1930	333	16	114	....	103	566	747
	1931	289	11	54	....	112	466	568
Dundas 2b—Chesterville Road at Morewood	1930	312	16	120	....	89	537	692
	1931	343	13	62	....	118	536	694
Dundas 3a—Williamsburg-Chesterville Road at road to Gallingertown	1930	172	16	20	....	38	246	253
	1931	184	20	24	....	39	267	334

Dundas 3b—Road to Gallingertown at Williamsburg-Chesterville Road	1930	38	....	10	....	56	104	150
	1931	43	....	9	....	51	103	161
31-2a—Chesterville Road south of Winchester	1930	213	13	24	....	33	283	324
	1931	161	5	26	....	31	223	265
DUNDAS COUNTY—FALL:								
Dundas 2a—Crysler Road at Morewood	1930	341	13	50	....	109	513	628
	1931	344	11	63	....	73	491	624
Dundas 2b—Chesterville Road at Morewood	1930	353	15	60	....	112	520	677
	1931	344	9	64	....	83	500	651
Dundas 3a—Chesterville-Williamsburg Road at junction of road to Gallingertown	1930	167	15	22	....	35	239	329
	1931	183	27	23	....	40	273	306
Dundas 3b—Road to Gallingertown at junction of Chesterville-Williamsburg Road	1930	32	1	10	....	52	95	110
	1931	41	9	9	....	51	110	135
31-2a—Chesterville Road south of Winchester	1930	277	11	34	....	25	347	609
	1931	243	9	62	....	125	439	491
ELGIN COUNTY—SUMMER								
3-6a—Dutton-Tyrconnell Road at Wallacetown	1930	422	29	61	....	14	526	720
	1931	368	16	59	....	14	457	630
3-10a—Belmont Road at New Sarum	1930	179	8	15	....	3	205	284
	1931	171	9	18	....	3	201	308
3-11a—Bayham Road at King's Highway No. 3	1930	114	10	23	....	5	152	220
	1931	103	6	20	....	7	136	158
4-1a—County Road No. 27 at Union	1930	399	42	39	....	3	483	361
	1931	Under construction						
19-1a—County Road No. 38 at Straffordshire	1931	241	14	126	....	45	526	614
ELGIN COUNTY—FALL:								
3-6a—Dutton-Tyrconnel Road at Wallacetown	1930	383	11	66	....	17	477	669
	1931	334	12	50	....	9	405	474
3-10a—Belmont Road at New Sarum	1930	175	4	20	....	6	205	347
	1931	161	3	20	....	5	189	208
3-11a—Bayham Road at King's Highway No. 3, Lot 107, Malahide Township	1930	155	6	24	....	5	190	396
	1931	169	5	23	1	5	203	358
4-1a—County Road No. 27 at Union	1930	326	8	45	....	10	389	540
	1931	379	9	44	....	7	439	526
19-1a—County Road No. 38 at Straffordshire	1931	442	5	71	1	25	544	722

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
ESSEX COUNTY—SUMMER:								
Essex 1a—Tecumseh Road at Stoney Point	1930	628	255	41	....	48	972	1,856
	1931	728	306	81	....	24	1,139	2,347
Essex 1b—Comber Road at Stoney Point	1930	279	79	22	....	38	418	770
	1931	272	65	38	....	9	384	719
Essex 3a—Townline between Colchester North and Malden Townships at Pike Road	1930	724	495	83	5	7	1,314	2,906
	1931	810	568	97	4	8	1,487	3,208
Essex 3b—Pike Road at Townline between Colchester North and Malden Townships	1930	212	78	23	....	6	319	569
	1931	286	124	47	....	12	469	874
Essex 4a—Tecumseh Road at junction of Pilette Road	1930	2,488	485	364	13	16	3,366	4,246
	1931	2,711	654	436	16	12	3,829	4,907
Essex 4b—Pilette Road at junction of Tecumseh Road	1930	676	78	79	5	15	853	1,083
	1931	552	36	113	....	13	714	1,003
Essex 5a—Front Road at Townline between Anderdon and Sandwich West Townships	1930	517	345	74	....	6	942	1,545
	1931	549	336	63	....	5	953	1,543
Essex 5b—Townline between Anderdon and Sandwich West Townships and Front Road	1930	775	478	64	....	4	1,321	3,050
	1931	877	541	71	....	2	1,491	4,886
Essex 6a—Staples-Leamington Road at Staples	1930	184	14	33	1	2	234	400
	1931	187	22	37	....	2	248	436
Essex 6b—Townline Road between Tilbury W. and Mersea Townships at Staples	1930	238	17	44	1	3	303	497
	1931	234	25	45	....	4	308	570
2-2a—Belle River-Cottam Road at Woodslee	1930	264	60	62	....	24	410	672
	1931	286	65	75	1	10	437	604
3a-1a—Howard Avenue at King's Highway No. 2	1930	368	174	68	1	2	613	998
	1931	474	160	64	1	3	702	1,299
3-2a—Diversion Road at junction of King's Highway No. 3, north of Cottam	1930	743	721	67	8	4	1,543	3,732
	1931	815	753	57	....	1	1,626	3,758
ESSEX COUNTY—FALL:								
Essex 1a—Tecumseh Road at Stoney Point	1930	519	191	68	1	33	812	1,669
	1931	463	113	62	....	54	692	1,237

Essex 1b—Comber Road at Stoney Point	1930	251	52	50	1	25	379	621
	1931	228	37	30	....	23	318	568
Essex 3a—Townline between Colchester North and Malden Townships at Pike Head	1930	507	141	79	4	12	743	1,631
	1931	486	128	74	4	8	700	1,187
Essex 3b—Pike Road at junction of Townline Road between Colchester North	1930	168	14	19	....	6	207	302
	1931	231	27	37	....	6	301	421
Essex 4a—Tecumseh Road at junction of Pilette Road	1930	2,476	323	432	18	14	3,263	4,579
	1931	2,199	271	424	16	9	2,919	3,310
Essex 4b—Pilette Road at junction of Tecumseh Road	1930	400	24	58	....	18	500	788
	1931	499	24	81	....	16	620	729
Essex 5a—Front Road at Townline between Anderdon and Sandwich West Townships	1930	421	128	39	....	4	592	1,278
	1931	372	112	53	....	1	538	862
Essex 5b—Townline between Anderdon and Sandwich West Townships and Front Road	1930	636	266	64	....	2	968	2,229
	1931	448	191	64	....	1	704	1,098
Essex 6a—Staples-Leamington Road at Staples	1930	203	7	37	....	12	259	368
	1931	174	8	53	....	10	245	308
Essex 6b—Townline Road between Tilbury W. and Mersea Townships at Staples	1930	252	9	47	....	27	335	453
	1931	220	9	67	....	15	311	351
2-2a—Belle River-Cottam Road at Woodslee	1930	300	30	50	....	22	402	596
	1931	240	35	50	....	14	339	389
3-2a—Division Road at junction of King's Highway No. 3, north of Cottam	1930	418	200	55	1	1	675	1,735
	1931	309	149	54	3	3	518	818
FRONTENAC COUNTY—SUMMER:								
Frontenac 1a—Kingston Mills Road at Tuttle's Hill	1930	207	13	18	....	1	239	427
	1931	225	14	15	....	2	256	566
Frontenac 1b—Storrington Road at Tuttle's Hill	1930	473	52	114	2	5	646	823
	1931	452	43	80	3	4	582	984
Frontenac 2a—Harrowsmith-Yarker Road at Shibley's Corners	1930	151	19	33	....	9	212	258
	1931	142	8	24	....	8	182	264
Frontenac 2b—Portland Road at Shibley's Corners	1930	125	17	28	....	6	176	210
	1931	105	8	19	....	6	138	170
Frontenac 3a—Bath Road at road leading to Westbrook	1930	487	37	34	1	16	575	744
	1931	636	48	49	5	9	747	1,276
Frontenac 3b—Road leading to Westbrook at Bath Road	1930	89	13	12	1	11	126	162
	1931	249	21	30	2	7	309	457
Frontenac 4a—Bellrock Road at County Road No. 77, south of Vernon	1930	76	3	7	....	16	102	145
	1931	85	6	14	....	8	113	146

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
Frontenac 4b—County Road No. 77, south of Verona at Bellrock Road	1930	261	28	31	....	23	343	391
	1931	290	25	37	....	15	367	503
Frontenac 5—Main Street, Village of Wolfe Island	1930	284	29	34	5	237	589	859
	1931	313	36	57	....	174	580	886
2-30a—Portland Road at Cataraqui Corners	1930	497	48	81	1	16	643	812
	1931	594	50	100	....	14	758	1,004
FRONTENAC COUNTY—FALL:								
Frontenac 1a—Kingston Mills Road at Tuttle's Hill	1930	129	4	15	....	4	152	385
	1931	128	5	14	....	3	150	296
Frontenac 1b—Storrington Road at Tuttle's Hill	1930	331	9	125	2	9	476	778
	1931	322	10	90	1	7	430	579
Frontenac 2a—Harrowsmith-Yarker Road at Shibley's Corners	1930	126	4	27	....	11	168	261
	1931	100	2	28	....	9	139	155
Frontenac 2b—Portland Road at Shibley's Corners	1930	101	5	23	....	9	138	212
	1931	67	1	19	....	6	93	106
Frontenac 3a—Bath Road at road leading to Westbrook	1930	457	14	38	3	9	521	907
	1931	384	13	39	2	9	447	644
Frontenac 3b—Road leading to Westbrook at Bath Road	1930	160	5	22	....	8	195	297
	1931	149	6	23	....	8	186	256
Frontenac 4a—Bellrock Road at County Road No. 77, one-half mile south of Verona	1930	82	3	23	....	12	121	173
	1931	67	1	7	....	10	85	125
Frontenac 4b—County Road No. 77, one-half mile south of Verona	1930	252	9	47	....	21	329	440
	1931	229	5	30	2	16	282	354
Frontenac 5—Main Street, Village of Wolfe Island	1930	402	19	55	....	245	721	754
	1931	298	6	62	....	198	564	951
2-29a—Portland Road at Cataraqui Corner	1930	581	22	98	2	22	725	1,011
	1931	512	14	76	1	11	614	791
*Frontenac 6a—Arden-Kaladar Road at junction of road between Concessions 8 and 9	1931	149	2	32	....	19	202	286

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*Frontenac 6a is to be assumed as a continuation of King's Highway No. 7.

Frontenac 6b—Road between Concessions 8 and 9, at junction of the Arden-Kaladar Road, traffic north of Arden	1931	209	4	27	....	10	250	430
Frontenac 6c—Road between Concessions 8 and 9, at junction of the Arden-Kaladar Road, traffic south of Arden	1931	210	10	32	....	25	277	531
GLENGARRY COUNTY—SUMMER:								
34-2a—Road west of McCrimmon	1930	53	3	3	....	44	103	104
	1931	55	3	3	....	33	94	161
34-2b—Road north and south of McCrimmon	1930	195	25	19	1	101	341	394
	1931	28	2	3	....	18	51	92
GLENGARRY COUNTY—FALL:								
Glengarry 2a—Road West from McCrimmon	1930	42	3	5	....	31	81	122
	1931	36	1	2	....	36	75	94
Glengarry 2b—Road north and south from McCrimmon	1930	199	14	24	....	88	325	333
	1931	25	1	1	....	11	38	42
GREY COUNTY—SUMMER:								
10-4a—Durham-Singhampton Road at Flesherton	1930	2,125	164	213	10	50	2,562	3,289
	1931	984	21	112	4	35	1,156	1,425
GREY COUNTY—FALL:								
10-4a—Durham-Singhampton Road at Flesherton	1930	1,052	11	179	8	98	1,348	1,628
	1931	987	4	120	7	65	1,183	1,504
HALDIMAND COUNTY—SUMMER:								
Haldimand 1a—Indian Line at junction of road to Springvale	1930	177	7	17	....	18	219	310
	1931	140	3	19	....	16	178	276
Haldimand 1b—Road to Springvale at junction of Indian Line	1930	124	6	11	....	6	147	204
	1931	92	2	12	....	3	109	170
Haldimand 2a—Cheapside Road at Selkirk-Nanticoke Road	1930	359	16	30	....	13	418	1,027
	1931	305	10	27	....	17	359	751
Haldimand 2b—Selkirk-Nanticoke Road at junction of Cheapside Road	1930	242	10	32	....	18	302	571
	1931	209	9	38	....	17	273	426
3-15a—Hagersville-Rainham Road at Nelles Corners	1930	303	13	35	....	5	356	486
	1931	353	14	41	....	3	411	563
3-16a—Canboro Road at Canboro Corners	1930	317	22	85	1	9	434	703
	1931	368	35	49	....	6	458	800

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
6-3a—Oshwekon Road at King's Highway No. 6	1930	73	6	18	......	4	101	183
	1931	68	3	18	......	5	94	158
HALDIMAND COUNTY—FALL:								
Haldimand 1a—Indian Line at junction of road to Springvale	1930	151	4	21	......	18	194	249
	1931	132	3	19	......	21	175	172
Haldimand 1b—Road to Springvale at junction of Indian Line	1930	107	3	13	......	9	132	166
	1931	92	1	13	1	5	112	163
Haldimand 2a—Cheapside Road at Selkirk-Nanticoke Road	1930	109	2	42	......	14	167	210
	1931	132	1	13	......	7	153	199
Haldimand 2b—Selkirk-Nanticoke Road at Cheapside Road	1930	139	2	54	......	20	215	240
	1931	146	1	17	......	10	174	202
3-15a—Hagersville-Rainham Road at Nelles Corners	1930	318	9	53	......	10	390	498
	1931	326	8	46	......	4	384	495
3-16a—Canboro Road at Canboro Corners	1930	311	18	48	......	14	391	622
	1931	390	21	55	......	10	476	606
6- 3a—Oshweken Road at King's Highway No. 6	1930	86	2	18	......	6	112	162
	1931	86	3	45	......	7	141	189
HALTON COUNTY—SUMMER:								
Halton 1a—Middle Road at Merton	1930	152	2	22	......	2	178	324
	1931	190	11	35	......	5	241	406
Halton 1b—Bronte Sideroad at Merton	1930	502	41	61	......	7	611	1,165
	1931	495	40	67	......	7	609	1,235
2-16a—Guelph Line Road at King's Highway No. 2	1930	184	5	38	......	......	227	249
	1931	178	4	42	......	......	224	251
5-3a—County Road at Trafalgar	1930	581	22	120	1	3	727	1,140
	1931	536	15	89	......	1	641	1,177
5-4a—Brant Street at King's Highway No. 5	1930	96	7	12	......	2	117	218
	1931	261	17	31	......	......	309	616

HALTON COUNTY—FALL:								
Halton 1a—Middle Road at Merton	1930	124	1	33	......	1	159	300
	1931	172	3	42	......	2	219	353
Halton 1b—Bronte Sideroad at Merton	1930	358	7	66	......	3	434	966
	1931	487	17	79	......	3	586	1,042
2–16a—Guelph Line Road at Toronto-Hamilton Highway	1930	123	2	31	......	......	156	162
	1931	160	2	41	......	1	204	252
5–3a—County Road at Trafalgar	1930	550	5	104	......	4	663	1,247
	1931	566	6	79	......	2	653	1,002
5–4a—Brant Street at junction of Dundas Street	1930	161	5	34	......	......	200	370
	1931	258	12	26	......	......	296	537
HASTINGS COUNTY—SUMMER:								
Hastings 1—Maynooth Road at Bannockburn	1930	195	25	32	......	9	261	301
	1931	177	13	44	1	9	244	296
Hastings 2a—Frankford-Foxboro Road at junction of County Road No. 5	1930	112	2	16	1	5	136	192
	1931	95	2	12	......	6	115	220
Hastings 2b—County Road No. 5 at junction of Frankford-Foxboro Road	1930	88	1	13	2	10	114	150
	1931	128	1	9	......	12	150	507
Hastings 3a—County Road No. 1 at Crookstown Corners	1930	395	21	48	3	35	502	660
	1931	622	15	49	5	25	716	1,634
Hastings 3b—County Road No. 9 at Crookstown Corners	1930	103	2	11	......	22	138	163
	1931	247	1	17	4	22	291	871
7–24a—County Road No. 11 at three miles east of Marmora	1931	303	10	26	7	19	365	1,000
14–4a—Hastings Road at Foxboro	1930	456	27	27	3	7	520	508
	1931	276	20	33	2	6	337	607
33–1a—Frankford-Wallbridge Road at Frankford	1930	396	12	76	2	52	538	649
	1931	418	12	103	......	43	576	391
HASTINGS COUNTY—FALL:								
Hastings 1—Maynooth Road at Bannockburn	1930	198	5	46	......	7	256	321
	1931	189	5	29	......	5	228	323
Hastings 2a—Frankford-Foxboro Road at Lots 30 and 31, Sidney Township	1930	88	......	12	......	4	104	181
	1931	71	......	8	......	8	87	116
Hastings 2b—County Road No. 5 at junction of Frankford-Foxboro Road	1930	59	1	10	2	7	79	103
	1931	71	......	8	......	10	89	105
Hastings 3a—County Road No. 1 at Crookstown Corners	1930	536	6	48	4	25	619	1,390
	1931	593	6	50	3	25	677	1,453
Hastings 3b—County Road No. 9 at Crookstown Corners	1930	135	1	11	1	19	167	239
	1931	127	1	10	......	19	157	254
Hastings 4a—County Road No. 10 at Actinolite	1931	133	1	20	......	47	201	308

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

Daily Average

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
Hastings 4b—At Actinolite, traffic north and south	1931	250	6	41	....	57	354	464
7-24a—County Road No. 11, three miles east of Marmora	1931	322	6	38	11	25	402	459
14—4a—Hastings Road at Foxboro	1930	325	4	38	3	4	374	622
	1931	311	6	30	2	8	357	571
33 1a—Frankford-Wallbridge at Frankford	1930	461	5	94	2	41	603	802
	1931	406	4	71	....	33	514	552
Huron County—Summer:								
Huron 1a—Goderich Road at Amberley	1930	640	138	30	2	7	817	1,554
	1931	605	122	45	2	11	785	1,059
Huron 1b—Lucknow Road at Amberley	1930	409	41	25	....	6	481	919
	1931	416	37	36	....	7	496	671
Huron 2a—Wingham-Listowel Road at Brussels-Wroxeter Road	1930	183	4	22	....	5	214	336
	1931	203	2	28	....	2	235	342
Huron 2b—Brussels-Wroxeter Road at Wingham-Listowel Road	1930	176	5	26	....	5	212	275
	1931	208	4	31	....	2	245	340
Huron 3a—Wincheslea-Berryland Road at Kirkton	1930	187	2	47	....	37	273	307
	1931	204	3	37	....	18	262	305
Huron 3b—Russeldale-Elginfield Road at Kirkton	1930	354	13	65	....	45	477	537
	1931	351	9	56	....	23	439	550
Huron 4a—Bluewater Highway near Brewster	1930	533	184	43	5	11	776	1,621
	1931	584	146	57	6	12	805	1,805
Huron 4b—County Road No. 7, at junction of Bluewater Highway near Brewster	1930	275	54	29	3	8	369	696
	1931	348	69	41	5	9	472	949
4 7a—Bayfield-Seaforth Road at Brucefield	1930	514	24	56	....	22	616	1,370
	1931	485	14	56	....	28	583	876
8 12a—Lucknow Road south of Goderich Township	1930	124	9	9	....	11	153	216
	1931	138	8	10	....	9	165	254
Huron County—Fall:								
Huron 1a—Goderich Road at Amberley	1930	396	51	33	....	14	494	675
	1931	345	24	37	....	11	417	507

Huron 1b—Lucknow Road at Amberley	1930	238	13	23	......	12	286	317
	1931	231	6	24	......	9	270	307
Huron 2a—Wingham-Listowel Road at Brussels-Wroxeter Road	1930	180	2	25	......	4	211	301
	1931	225	2	28	......	4	259	351
Huron 2b—Brussels-Wroxeter Road at Wingham-Listowel Road	1930	192	3	28	......	5	228	290
	1931	241	3	31	......	5	280	345
Huron 3a—Wincheslea-Berryland Road at Kirkton	1930	201	1	40	......	27	269	301
	1931	276	2	43	......	25	346	792
Huron 3b—Russeldale-Elginfield Road at Kirkton	1930	332	6	46	......	26	410	549
	1931	477	7	64	......	33	581	1,369
Huron 4a—Clinton-Wingham Road at Belgrave	1930	364	10	37	3	16	430	570
	1931	Not taken	(this has be	en assumed	as a King's	Highway)		
Huron 5a—Bluewater Highway near Brewster	1930	253	69	34	......	26	382	706
	1931	235	58	51	3	10	357	420
Huron 5b—County Road No. 7 at junction of Bluewater Highway	1930	165	39	30	......	17	251	369
	1931	143	35	42	3	8	231	277
4-7a—Bayfield-Seaforth Road at Brucefield	1930	395	6	63	......	29	493	633
	1931	344	9	50	......	33	436	488
8-12a—Lucknow Road south of Goderich at Concession A, Lot 9, Goderich Township	1930	144	3	11	......	10	168	329
	1931	141	2	12	......	9	164	224
KENT COUNTY—SUMMER:								
Kent 1a—Chatham-Wallaceburg Road at junction of Mitchell Bay Road	1930	485	44	115	10	3	657	917
	1931	592	76	100	10	2	780	1,136
Kent 1b—Mitchell Bay Road at junction of Chatham-Wallaceburg Road	1930	162	10	26	3	7	208	307
	1931	147	6	23	......	3	179	251
Kent 2a—Kent Bridge-Harwich Road at junction of Second Concession Road, Howard Township	1930	168	10	24	......	3	205	351
	1931	224	7	24	......	4	259	521
Kent 2b—Second Concession Road, Howard Township, at junction of Kent Bridge-Harwich Road	1930	48	2	6	......	1	57	93
	1931	38	1	4	......	2	45	72
Kent 3a—Port Lambton Road at junction of Wallaceburg-Walpole Island Road	1930	172	41	17	......	5	235	434
	1931	308	62	30	......	9	409	690
Kent 3b—Wallaceburg-Walpole Island Road at junction of Port Lambton Road	1930	209	42	19	......	7	277	524
	1931	387	79	41	......	10	517	1,043

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
Kent 4a—Merlin-Tilbury Road at Merlin	1930	902	112	156	....	82	1,252	1,393
	1931	742	97	146	....	30	1,015	1,192
Kent 4b—Townline Road between Tilbury E. and Raleigh Townships	1930	721	48	142	2	63	976	1,143
	1931	699	50	163	....	35	947	1,127
2–4a—Tupperville Road east of Chatham at King's Highway No. 2	1930	236	27	39	....	2	304	403
	1931	225	16	38	....	5	284	335
3–3a—Chatham Road at Cedar Springs	1930	610	91	80	....	11	792	1,009
	1931	709	113	120	....	9	951	1,385
21–2a—Ridgetown-Highgate Road at King's Highway No. 21	1930	307	19	44	....	6	376	479
	1931	303	10	37	....	2	361	477
21–3a—Townline Road between Camden and Chatham Townships at junction of Highway No. 21	1930	Not taken						
	1931	165	12	27	....	8	212	361
KENT COUNTY—FALL:								
Kent 1a—Chatham-Wallaceburg Road at junction of Mitchell Bay Road	1930	Not taken						
	1931	549	49	232	10	9	849	929
Kent 1b—Mitchell Bay Road at junction of Chatham-Wallaceburg Road	1930	Not taken						
	1931	137	8	91	....	8	244	316
Kent 2a—Kent Bridge-Harwich Road at junction of Second Concession Road, Howard Township	1930	199	4	30	....	5	238	387
	1931	209	3	42	....	8	262	312
Kent 2b—Second Concession Road, Howard Township at junction of Kent Bridge-Harwich Road	1930	44	1	8	....	2	55	93
	1931	51	....	15	....	2	68	88
Kent 3a—Port Lambton Road at junction of Wallaceburg-Walpole Island Road	1930	82	13	18	....	7	120	213
	1931	132	24	25	....	6	187	259
Kent 3b—Wallaceburg-Walpole Island Road at junction of Port Lambton Road	1930	84	15	11	....	11	121	223
	1931	109	15	20	....	11	155	202

Kent 4a—Merlin-Tilbury Road at Merlin	1930	822	49	130	....	70	1,071	1,169
	1931	740	73	156	1	41	1,011	1,236
Kent 4b—Townline Road between Tilbury E. and Raleigh Townships	1930	688	21	133	....	105	947	1,114
	1931	645	22	184	....	45	896	1,083
2-4a—Tupperville Road east of Chatham at junction of King's Highway No. 2	1930	271	27	70	2	3	373	449
	1931	208	15	96	....	12	331	400
3-3a—Chatham Road at Cedar Springs	1930	430	41	100	....	18	589	886
	1931	372	29	68	....	12	481	563
21-2a—Ridgetown-Highgate Road at King's Highway No. 21	1930	647	33	37	....	10	727	1,438
	1931	590	21	41	....	9	661	1,319
21-3a—Townline Road between Camden and Chatham Townships at junction of Dresden	1930	161	18	36	....	17	232	297
	1931	165	7	29	....	17	218	285
LAMBTON COUNTY—SUMMER:								
7-1a—Forest Road, one-half mile south of Forest	1931	560	128	62	2	22	774	1,075
7-3a—East and west traffic at 24th Sideroad, west of Wisbeach	1930	123	63	19	2	7	214	365
	1931	192	51	18	2	8	271	448
LAMBTON COUNTY—FALL:								
7-1a—Forest Road, One-half mile south of Forest	1931	456	36	53	2	21	568	662
7-2½a—18th Sideroad at Highway No. 7	1931	96	34	13	....	3	146	191
7-3a—North and south traffic at 24th Sideroad, west of Wisbeach	1930	143	36	21	2	5	207	329
	1931	168	23	12	2	4	209	345
LANARK COUNTY—SUMMER:								
Lanark 2—Calabogie Road at White	1930	25	9	2	....	2	38	47
	1931	37	7	2	....	2	48	56
Lanark 3a—Almonte-Carp Road at junction of Almonte-West Huntley Road	1930	113	6	17	....	30	166	260
	1931	180	8	18	....	31	237	372
Lanark 3b—Almonte-West Huntley Road at junction of Almonte-Carp Road	1930	68	2	5	....	17	92	119
	1931	60	1	6	....	9	76	113
Lanark 4a—Westport Road at junction of Darcyville Road	1930	34	5	2	....	4	45	55
	1931	37	1	4	....	5	47	59
Lanark 4b—Darcyville Road at junction of Westport Road	1930	33	2	1	....	8	44	59
	1931	39	1	3	....	7	50	65

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
Lanark 5a—Franktown-Carleton Place Road, at junction of Franktown-Richmond Road	1930	227	21	29	....	5	282	390
	1931	368	23	29	3	6	429	790
Lanark 5b—Franktown-Richmond Road at junction of Franktown-Carleton Place Road	1930	189	15	20	....	2	226	383
	1931	166	11	10	....	3	190	332
Lanark 6a—Perth-Lanark traffic at Third Line, Bathurst	1930	412	19	48	....	25	504	598
	1931	348	20	53	....	25	446	585
Lanark 6b—Third Line, Bathurst, traffic at Perth-Lanark Road	1930	341	24	24	....	22	411	479
	1931	317	19	38	....	20	394	482
15 5a—Smith's Falls-Carleton Place Road at Carleton Place	1930	470	25	42	....	27	564	678
	1931	673	27	67	3	23	793	1,176
29 3a—County Road at Lots 2 and 3, Concession 9, Township of Ramsay	1930	172	4	13	....	16	205	250
	1931	124	3	7	....	11	145	183
29 5a—County Road at Pakenham at intersection of Antrim Road and Highway No. 29	1930	149	5	16	....	64	234	259
	1931	130	2	19	....	54	205	277
LANARK COUNTY—FALL:								
Lanark 1a—Townline Road at Ashton Station at West Huntley Road	1930	13	....	2	....	19	34	41
	1931	17	....	6	1	20	44	48
Lanark 1b—West Huntley Road at Townline Road	1930	15	....	3	....	28	46	56
	1931	18	1	7	....	20	46	54
Lanark 2—Calabogie Road at White	1930	21	4	1	....	3	29	55
	1931	22	2	2	....	1	27	44
Lanark 3a—Almonte-Carp Road at Almonte-West Huntley Road	1930	154	2	19	....	29	204	318
	1931	146	2	12	....	25	185	233
Lanark 3b—Almonte-West Huntley Road at Almonte-Carp Road	1930	60	....	4	....	7	71	112
	1931	56	....	6	....	10	72	90

Lanark 4a—Westport Road at Darcyville Road	1930	42	1	3	....	7	53	75
	1931	36	1	4	....	7	48	67
Lanark 4b—Darcyville Road at Westport Road	1930	39	....	1	....	6	46	66
	1931	37	....	4	....	8	49	58
Lanark 5a—Franktown-Carleton Place Road at Franktown-Richmond Road	1930	264	10	28	....	9	311	636
	1931	355	16	32	....	3	406	546
Lanark 5b—Franktown-Richmond Road at Franktown-Carleton Place Road	1930	163	5	11	....	6	185	328
	1931	167	11	18	....	1	197	297
Lanark 6a—Perth-Lanark Road at junction of Third Line, Bathurst Township	1930	381	11	60	....	26	478	655
	1931	366	7	47	....	25	445	614
Lanark 6b—Third Line, Bathurst Township, at junction of Perth-Lanark Road	1930	316	5	24	....	23	368	486
	1931	273	7	25	....	26	331	443
15-5a—Smith's Falls-Carleton Place Road at Carleton Place	1930	447	9	38	....	30	524	708
	1931	532	14	199	....	25	770	1,171
29-3a—County Road at Lots 2, 3, Concession 9, Township of Ramsay at Highway No. 29	1930	116	2	9	....	14	141	184
	1931	73	....	5	....	9	108	167
29-5a—County Road at Pakenham at Highway No. 29	1930	152	3	13	....	50	218	316
	1931	141	1	13	....	55	210	305
LEEDS COUNTY—SUMMER:								
2-32a—Rockport Road at Escott	1930	62	17	11	....	21	111	127
	1931	46	21	14	....	23	104	114
2-33a—Lynn Road west of Brockville at King's Highway No. 2	1930	742	347	67	8	16	1,180	1,658
	1931	Under construction						
15-2a—Gananoque Road at Seeley's Bay	1930	236	63	14	....	7	320	434
	1931	154	41	9	....	5	209	255
15-3a—Rideau Ferry Road at Lombardy	1930	248	12	51	....	25	336	485
	1931	309	26	13	....	22	370	577
29-1a—Athens Road at Forthon	1930	213	39	23	....	11	286	674
	1931	199	29	26	3	3	260	421
29-2a—Phillipsville Road at Toledo	1930	141	9	18	1	10	179	254
	1931	125	8	13	....	20	166	324
29-2b—County Road No. 29 at Toledo	1930	61	2	9	....	15	87	139
	1931	51	....	3	....	9	63	107
LEEDS COUNTY—FALL:								
2-32a—Rockport Road at Escott	1930	43	6	10	....	22	81	92
	1931	47	9	9	....	16	81	119

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
2-33a—Lynn Road west of Brockville at King's Highway No. 2	1930	169	14	16		12	211	289
	1931	132	3	16		9	160	208
15-2a—Gananoque Road at Seeley's Bay	1930	206	16	11		6	239	436
	1931	112	5	7		5	129	181
15-3a—Rideau Ferry Road at Lombardy	1930	243	4	12		20	279	577
	1931	179	3	11		26	219	311
29-1a—Athens Road at Forthon	1930	164	9	34		7	214	334
	1931	223	9	19	4	4	259	330
29-2a—Phillipsville Road at Toledo	1930	220	5	16		35	276	402
	1931	122	2	5		25	154	257
29-26—County Road No. 29 at Toledo	1930	80	1	4		12	97	125
	1931	45	1	4		6	56	83
LENNOX AND ADDINGTON COUNTY—SUMMER:								
Lennox and Addington 1a—Napanee Road at Adolphustown	1930	66	6	6	2	10	90	112
	1931	81	3	6		16	106	161
Lennox and Addington 1b—Bath Road at Adolphustown	1930	52	3	6	2	15	78	104
	1931	46	1	5	2	9	63	100
Lennox and Addington 2—North and South Road at Stella on Amherst Island	1930	58		7		46	111	141
	1931	76	1	7		43	127	157
Lennox and Addington 3a—County Road No. 4 at Milsap	1930	77	4	6		9	96	120
	1931	130	8	8		11	157	235
Lennox and Addington 3b—County Road No. 12 at Milsap	1930	113	9	18		11	151	199
	1931	178	14	16		12	220	337
Lennox and Addington 4a—Napanee-Yarker Road at east limits of Camden East Village	1930	316	15	59		16	406	449
	1931	616	22	97		25	760	1,902
Lennox and Addington 4b—Road between Lots 25 and 26, Camden Township at east limits of Camden East Village	1930	206	10	29		8	253	355
	1931	503	39	68		27	637	2,259
Lennox and Addington 5—County Road No. 9, town limits of Napanee	1930	211	5	39		21	276	319
	1931	244	10	49		20	323	395

2–28a—Hamburg Road at Highway No. 2, Fredericksburg Township	1930	289	23	45	....	15	372	573
	1931	260	8	40	....	27	335	438
LENNOX AND ADDINGTON COUNTY—FALL:								
Lennox and Addington 1a—Napanee Road at Adolphustown	1930	79	1	9	....	12	101	136
	1931	64	1	9	....	15	89	105
Lennox and Addington 1b—Bath Road at Adolphustown	1930	63	1	8	2	8	82	114
	1931	44	....	6	....	9	59	74
Lennox and Addington 2—North and South Road at Stella on Amherst Island	1930	111	3	3	....	50	167	195
	1931	110	....	15	....	57	182	223
Lennox and Addington 3a—County Road No. 4 at Milsap	1930	88	1	16	....	9	114	164
	1931	135	2	9	....	11	157	200
Lennox and Addington 3b—County Road No. 12 at Milsap	1930	101	2	49	....	8	160	194
	1931	149	5	12	....	10	176	220
Lennox and Addington 4a—Napanee-Yarker Road at east limits of Camden East Village	1930	341	11	69	1	23	445	531
	1931	420	14	87	....	19	540	648
Lennox and Addington 4b—Road between Lots 25, 26, Camden Township at east limits of Camden	1930	171	5	57	....	19	252	282
	1931	234	14	47	....	14	309	438
Lennox and Addington 5—County Road No. 9 at town limits of Napanee	1930	213	1	40	....	30	284	396
	1931	231	4	38	....	21	294	343
Lennox and Addington 6—North of Erinsville, road to Kaladar (County Road No. 2)	1931	203	6	16	....	34	259	339
Lennox and Addington 7a—Traffic north and south bound, south of County Road No. 4	1931	566	7	80	1	52	706	932
Lennox and Addington 7b—Traffic north and south bound north of County Road No. 4	1931	101	12	14	....	20	147	175
2–28a—Road between Lots 20, 21, North Fredericksburg Township at King's Highway No. 2	1930	326	2	69	....	12	409	505
	1931	280	5	61	....	6	352	415
LINCOLN COUNTY—SUMMER:								
Lincoln 1a—County Road No. 38 (Niagara Street) at intersection of No. 1E	1930	848	65	159	....	14	1,086	1,552
	1931	915	80	108	8	5	1,116	2,140
Lincoln 1b—County Road No. 1E (Lake Shore Road) at intersection of County Road No. 3S	1930	954	72	145	2	16	1,189	1,880
	1931	1,167	100	152	8	10	1,437	2,483

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
Lincoln 2—County Road No. 6E, east and west at intersection of Pelham Road	1930	314	16	39	....	12	381	579
	1931	199	8	27	....	9	243	446
Lincoln 2a—Pelham Stone Road at intersection of County Road No. 6E	1930	130	6	23	....	10	169	248
	1931	340	16	55	....	14	425	747
Lincoln 2b—Louth Township Road at intersection of Road No. 6E and Pelham Road	1930	15	....	4	....	2	21	28
	1931	18	1	5	....	2	26	42
Lincoln 3a—County Road No. 1E (Lake Shore) at intersection of Road No. 7S	1930	1,327	175	164	....	12	1,678	2,319
	1931	1,327	155	135	....	8	1,625	2,248
Lincoln 3b—County Road No. 7S. (Martindale Road) at intersection of Road No. 1E	1930	1,113	152	113	....	9	1,387	1,833
	1931	1,207	143	99	....	6	1,455	1,943
Lincoln 4a—County Road No. 2E. at Virgil	1930	650	94	90	....	15	849	1,229
	1931	704	84	106	1	8	903	1,661
Lincoln 4b—County Road No. 1N. at Virgil	1930	354	60	63	....	15	492	844
	1931	396	62	61	....	6	525	1,029
Lincoln 5a—County Road No. 6E. at intersection of Road No. 13N	1930	344	16	48	....	13	421	699
	1931	397	24	63	....	5	489	1,085
Lincoln 5b—County Road No. 13N. at intersection of County Road No. 6E	1930	224	13	35	....	8	280	466
	1931	280	22	39	....	3	344	725
8-2c—Niagara-on-the-Lake Road at St. David's	1930	589	285	91	2	14	981	1,178
	1931	357	65	55	....	2	479	579
8-3a—County Road at Jordan Corners at junction of King's Highway No. 8	1930	402	27	79	....	9	517	586
	1931	493	33	129	....	12	667	693
8-4a—Grimsby Park Road at King's Highway No. 8	1930	816	78	114	....	27	1,035	1,521
	1931	698	70	126	1	9	904	1,337
20-1a—Smithville-Grimsby Road at King's Highway No. 20	1930	208	8	38	....	5	259	422
	1931	303	14	48	....	2	367	638

20–2b—Beamsville Road at St. Ann's	1930	288	15	47	...	8	358	588
	1931	286	12	53	...	6	357	678
20–3a—Canboro Road at Wellandport	1930	559	47	78	...	21	750	1,057
	1931	742	75	72	...	25	914	1,463
20–3b—Fork's Road at Wellandport	1930	342	22	49	...	14	427	634
	1931	437	35	42	...	13	527	938
LINCOLN COUNTY—FALL:								
Lincoln 1a—County Road No. 3S. (Niagara Street) at intersection of Road 1E.	1930	585	25	145	...	19	774	1,237
	1931	518	15	132	8	7	680	830
Lincoln 1b—County Road No. 1E. (Lake Shore Road) at intersection of Road No. 3S.	1930	664	30	158	...	30	882	1,514
	1931	630	17	172	8	11	838	1,025
Lincoln 2—County Road No. 6E. east and west at intersection of Pelham Road	1930	382	15	63	...	16	476	1,037
	1931	229	8	45	...	5	287	399
Lincoln 2a—Pelham Stone Road at intersection of County Road No. 6E.	1930	162	7	34	...	11	214	380
	1931	405	12	76	...	12	505	682
Lincoln 2b—Louth Township Road at intersection of Road No. 6E. and Pelham Road	1930	18	...	5	...	4	27	40
	1931	17	1	4	...	2	24	41
Lincoln 3a—County Road No. 1E. (Lake Shore) at intersection of Road No. 7S.	1930	571	34	117	...	21	743	1,085
	1931	622	22	101	...	10	755	859
Lincoln 3b—County Road No. 7S. (Martindale Road) at intersection of Road No. 1E.	1930	513	27	84	...	16	640	947
	1931	540	19	87	...	9	655	735
Lincoln 4a—County Road No. 2E. at Virgil	1930	514	47	111	...	10	682	2,336
	1931	487	19	122	8	4	639	793
Lincoln 4b—County Road No. 1N. at Virgil	1930	302	21	75	...	8	406	770
	1931	234	10	106	8	3	361	431
Lincoln 5a—County Road No. 6E. at interesection of Road No. 13N.	1930	355	13	70	...	11	449	844
	1931	359	7	59	...	9	434	645
Lincoln 5b—County Road No. 13N. at intersection of Road No. 6E.	1930	224	10	52	...	7	293	539
	1931	225	5	44	...	7	281	435
8–2c—Niagara-on-the-Lake Road at St. David's	1930	395	50	92	...	6	543	967
	1931	312	11	131	...	4	458	537
8–3a—County Road at Jordan Corners at junction of King's Highway No. 8	1930	593	31	182	1	18	825	973
	1931	581	14	292	2	19	908	976

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
8-4a—Grimsby Park Road at King's Highway No. 8	1930	354	16	53	....	11	434	703
	1931	420	19	79	....	14	532	681
20-1a—Smithville-Grimsby Road at King's Highway No. 20	1930	Under construction						
	1931	305	8	50	....	5	368	548
20-2b—Beamsville Road at St. Ann's	1930	300	10	66	....	9	385	725
	1931	309	3	60	....	8	380	556
20-3a—Canboro Road at Wellandport	1930	615	39	77	....	33	764	1,415
	1931	817	54	92	....	31	994	1,226
20-3b—Fork's Road at Wellandport	1930	350	20	52	....	19	441	858
	1931	369	20	51	....	18	458	577
MIDDLESEX COUNTY—SUMMER:								
2-6a—County Road at Wardsville	1930	281	32	66	....	14	393	443
	1931	253	19	37	....	15	324	541
2-7a—Strathroy Road at Christina	1930	95	8	16	....	15	134	151
	1931	74	7	10	....	5	96	134
2-8a—Byron Road at Lambeth	1931	307	8	23	....	4	342	589
2-9a—Wyton Road at junction of King's Highway No. 2	1930	122	6	22	....	1	151	189
	1931	132	3	22	....	4	161	263
4-4a—Township Road at Concessions 4 and 5, London Township north of London	1930	139	4	19	....	9	171	234
	1931	184	4	28	....	5	221	314
7-4a—Kerwood Road at Highway No. 7	1930	76	16	8	....	8	108	131
	1931	73	10	7	....	6	96	126
7-5a—Main Street at Parkhill	1930	581	79	62	6	30	758	952
	1931	506	63	46	4	21	640	767
22-1a—Poplar Hill-Delaware Road at Poplar Hill	1930	207	7	16	....	6	236	337
	1931	190	10	16	....	9	225	435
22-2a—Norwood Road at King's Highway No. 22	1930	235	8	66	....	30	339	375
	1931	235	8	48	4	21	316	406
MIDDLESEX COUNTY—FALL:								
2-6a—County Road at Wardsville, traffic north and south	1930	Under construction						
	1931	295	11	71	....	14	391	621

2–7a—Strathroy Road at Christina	1930	147	8	19	....	11	185	289
	1931	121	4	17	....	4	146	217
2–8a—Byron Road at Lambeth	1930	249	6	21	1	4	281	523
	1931	269	3	30	2	8	312	430
2–9a—Wyton Road at King's Highway No. 2	1930	122	2	25	....	2	151	211
	1931	127	2	24	....	1	154	198
4–5a—Township Road between Concessions 4 and 5, London Township north of London	1930	166	5	18	....	4	193	368
	1931	Not taken						
7–4a—Kerwood Road at King's Highway No. 7	1930	80	13	14	....	21	128	166
	1931	83	9	10	....	24	126	218
7–5a—Main Street at Parkhill	1930	570	74	56	4	48	752	963
	1931	665	23	51	4	47	790	1,311
22–1a—Poplar Hill-Delaware Road at Poplar Hill	1930	191	3	21	....	6	221	323
	1931	190	2	19	....	5	216	291
22–2a—Norwood Road at King's Highway No. 22	1930	238	3	37	....	11	289	340
	1931	282	6	44	3	11	346	423
NORFOLK COUNTY—SUMMER:								
Norfolk 1a—Simcoe-Port Dover Road at Vittoria Road	1930	1,718	172	163	1	12	2,066	3,544
	1931	1,519	134	131	4	5	1,793	3,667
Norfolk 1b—Vittoria Road at Simcoe-Port Dover Road	1930	756	78	75	1	7	917	1,489
	1931	610	56	57	4	2	729	1,570
Norfolk 2a—Waterford Road at Windham Centre	1930	261	5	163	....	11	440	515
	1931	306	1	66	....	10	383	456
Norfolk 2b—Teeterville Road at Windham Centre	1930	161	3	122	....	4	290	336
	1931	181	1	39	....	2	223	324
Norfolk 3a—County Road No. 9 at junction of County Road No. 8	1930	334	24	35	....	13	406	665
	1931	303	16	58	....	10	397	532
Norfolk 3b—County Road No. 8 at junction of County Road No. 9	1930	236	17	22	....	10	285	607
	1931	196	10	57	....	8	271	328
3–12a—County Road at Courtland	1930	414	19	74	....	24	531	681
	1931	387	10	100	....	22	519	578
3–13a—Port Dover Road at Renton	1930	441	18	39	3	24	525	830
	1931	332	8	44	....	11	395	496
NORFOLK COUNTY—FALL:								
Norfolk 1a—Simcoe-Port Dover Road at Vittoria Road	1930	967	22	132	3	7	1,131	1,710
	1931	969	19	144	4	10	1,146	1,377
Norfolk 1b—Vittoria Road at Simcoe-Port Dover Road	1930	456	14	72	3	4	549	804
	1931	474	12	90	3	6	585	730

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
Norfolk 2a—Waterford Road at Windham Centre	1930	283	3	62	....	10	358	387
	1931	289	1	49	....	18	357	405
Norfolk 2b—Teeterville Road at Windham Centre	1930	163	2	32	....	5	202	236
	1931	189	....	28	....	8	225	256
Norfolk 3a—County Road No. 9 at junction of County Road No. 8	1930	189	5	24	....	11	229	315
	1931	256	1	35	....	11	303	452
Norfolk 3b—County Road No. 8 at junction of County Road No. 9	1930	216	5	25	....	10	256	419
	1931	163	1	20	....	6	190	302
Norfolk 4a—County Road No. 17 at intersection of County Roads No. 19 and No. 15	1931	229	4	41	....	22	296	353
Norfolk 4b—County Roads No. 19 and No. 15, at intersection of County Road No. 17	1931	225	4	49	....	24	302	406
3-12a—County Road at Courtland	1930	357	7	71	2	20	457	550
	1931	421	6	74	....	21	522	578
3-13a—Port Dover Road at Renton	1930	249	4	29	....	22	304	388
	1931	209	3	23	....	15	250	280
NORTHUMBERLAND AND DURHAM COUNTIES—SUMMER:								
Northumberland 1a—Trenton Road at Wooler	1930	255	5	50	....	46	356	446
	1931	434	20	74	....	21	549	731
Northumberland 1b—Frankford Road at Wooler	1930	232	5	48	....	45	330	457
	1931	242	10	42	....	14	308	389
Durham 1a—Newcastle-Lindsay Road at Kirby	1930	271	2	21	....	12	306	447
	1931	175	1	23	....	12	211	391
Durham 1b—Kendal Road at Kirby	1930	77	....	7	....	8	92	184
	1931	39	....	8	....	8	55	91
Durham 2—Kendal Road at Starkville	1930	119	1	26	....	15	161	237
	1931	125	1	9	....	13	148	205
2-23a—Canton Road at Welcome Corner	1930	184	23	33	....	8	248	289
	1931	165	6	25	....	3	199	362
NORTHUMBERLAND AND DURHAM COUNTIES—FALL								
Durham 1a—Newcastle-Lindsay Road at Kirby	1930	231	1	30	....	14	276	414
	1931	178	1	35	....	16	230	323

Durham 1b—Kendal Road at Kirby	1930	62	....	7	....	12	81	105
	1931	55	....	5	....	5	65	71
Durham 2—Kendal Road at Startville	1930	131	1	12	....	22	166	231
	1931	127	....	17	....	19	163	179
Northumberland 1a—Trenton Road at Wooler, east and west	1930	467	4	83	....	24	578	828
	1931	461	3	83	1	15	563	683
Northumberland 1b—Frankford Road at Wooler, north and south	1930	237	3	44	....	15	299	354
	1931	225	1	39	....	11	276	338
2-23a—Canton Road at Welcome Corner	1930	163	1	30	....	5	199	248
	1931	207	1	30	....	4	242	341
ONTARIO COUNTY—SUMMER:								
Ontario 1a—Scugog Road at junction of Port Perry-Nestleton Station Road	1930	520	14	31	....	10	575	1,149
	1931	383	11	24	....	9	427	905
Ontario 1b—Port Perry-Nestleton Station Road at junction of Scugog Road	1930	436	7	33	....	7	483	1,087
	1931	452	12	30	....	9	503	1,069
12-2a—Port Perry Road at Manchester Corners	1930	756	20	55	13	10	854	1,788
	1931	639	19	60	16	5	739	1,644
12-4a—Sutton Road south of Beaverton	1930	541	23	35	....	1	600	878
	1931	598	18	35	....	3	654	1,184
12-5a—County Road No. 18 at King's Highway No. 12	1931	525	34	64	....	11	634	910
12-6a—County Road No. 49 at junction of King's Highway No. 12, Thorah Township	1930	237	8	11	....	3	259	414
	1931	142	2	8	....	4	156	321
ONTARIO COUNTY—FALL:								
Ontario 1a—Scugog Road at junction of Port Perry-Nestleton Station Road	1930	399	3	31	....	20	453	973
	1931	213	1	19	....	10	243	437
Ontario 1b—Port Perry-Nestleton Station Road at junction of Scugog Road	1930	237	2	22	....	7	268	550
	1931	404	3	38	....	12	457	890
12-2a—Port Perry Road at Manchester Corners	1930	502	4	49	13	11	579	1,412
	1931	515	4	57	14	7	597	1,103
12-4a—Sutton Road south of Beaverton	1930	189	2	24	....	2	217	527
	1931	285	3	23	....	2	313	645
12-5a—County Road No. 18 at junction of King's Highway No. 12	1930	265	7	41	....	10	323	491
	1931	299	8	48	....	5	360	458
12-6a—County Road No. 49 at Concessions 7 and 8, at junction of King's Highway No. 12	1930	109	1	10	....	5	125	332
	1931	119	1	7	....	8	135	282

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
OXFORD COUNTY—SUMMER:								
Oxford 1a—Embro-Beachville Road at junction of County Road No. 17	1930	110	1	14	....	3	128	192
	1931	98	1	12	....	3	114	163
Oxford 1b—County Road No. 17 at junction of Embro-Beachville Road	1930	112	3	7	....	1	123	189
	1931	109	1	12	....	1	123	201
Oxford 2a—Harrington Road at junction of Embro Road	1930	161	4	16	....	23	194	281
	1931	133	3	12	....	11	139	220
Oxford 2b—Embro Road at junction of Harrington Road	1930	180	6	17	....	12	215	276
	1931	144	4	16	....	9	173	291
2–10a—Lakeside Road at Thamesford	1930	294	9	55	....	25	383	431
	1931	295	10	52	....	26	383	519
2–10b—Governor's Road, traffic east of Thamesford	1930	36	1	4	....	8	49	55
	1931	68	1	6	....	6	81	148
2–12a—Burford Road at Eastwood	1930	183	9	50	....	5	247	279
	1931	224	10	124	....	3	361	386
19–2a—Salford-Burgessville Road	1930	167	8	26	1	29	231	267
	1931	426	13	74	....	27	540	637
OXFORD COUNTY—FALL:								
Oxford 1a—Embro-Beachville Road at County Road No. 17	1930	103	....	14	....	5	122	172
	1931	86	1	15	....	4	106	109
Oxford 1b—County Road No. 17, at Embro-Beachville Road	1930	120	1	12	....	5	138	207
	1931	110	1	9	....	....	120	138
Oxford 2a—Harrington Road at Embro Road	1930	127	....	18	....	10	155	209
	1931	95	....	14	....	10	119	145
Oxford 2b—Embro Road at Harrington Road	1930	150	....	20	....	6	176	276
	1931	131	....	16	....	8	155	224
2–10a—Lakeside Road at Thamesford	1930	293	6	61	....	24	384	469
	1931	289	5	54	1	24	373	410
2–10b—Governor's Road, traffic east of Thamesford	1930	68	1	8	....	6	83	180
	1931	64	....	4	....	5	73	98
2–12a—Burford Road at Eastwood	1930	242	7	67	....	4	320	414
	1931	214	4	45	....	4	267	309

19-2a—Salford-Burgessville Road at Salford	1930	176	9	39		27	251	278
	1931	239	9	46		38	332	421
19-3a—County Road No. 16 at junction of Highway No. 19	1930	263	2	56		42	363	433
	1931	203	4	33		7	247	330
PETERBOROUGH COUNTY—SUMMER:								
7-21a—Chemong Road north of Highway No. 7	1930	870	83	74	2	12	1,041	1,431
	1931	961	85	90	5	9	1,150	1,800
7-22a—Keene Road at Block Road	1930	47		7		1	55	69
	1931	49	1	8		1	59	73
7-22b—Block Road at Norwood Road	1930	18		4		1	23	28
	1931	100	1	28	5	2	136	157
7-23a—County Road No. 1 at junction of Highway No. 7, south of Havelock	1931	342	32	33		10	417	529
28-2a—County Road south of Peterborough at Concessions 6 and 7 Monaghan Township	1930	26		7		6	39	52
	1931	34	1	9		5	49	66
PETERBOROUGH COUNTY—FALL:								
7-21a—Chemong Road north of Highway No. 7	1930	439	9	70		11	529	922
	1931	392	19	79		9	499	669
7-22a—Keene Road at Block Road	1930	43		7	1	2	53	76
	1931	197	1	23	1	2	224	253
7-22b—Block Road at Norwood Road	1930	20		2		1	23	45
	1931	7		2			9	14
7-23a—County Road No. 1 south of Havelock	1931	246	1	29		10	286	351
28-2a—County Road at Concessions 6 and 7, Monaghan Township south of Peterborough	1930	35	1	7		2	45	66
	1931	34		5		5	44	73
PERTH COUNTY—SUMMER:								
Perth 1a—Listowel-Elmira Road at junction of Stratford-Dorking-Drayton Road	1930	131	2	16		19	168	215
	1931	185	3	22		31	241	378
Perth 1b—Stratford-Dorking-Drayton Road at junction of Listowel-Elmira Road	1930	55		7		16	78	146
	1931	55	1	7		17	80	109
7-8a—Fairview Road south of Stratford at King's Highway No. 7	1930	225	13	22	1	5	266	308
	1931	192	6	20		4	222	371
7-9a—Tavistock Road at Shakespeare	1930	517	15	75		14	621	1,021
	1931	524	12	70		12	618	939
8-10a—St. Mary's Road east of Sebringville	1930	128	8	14		11	161	201
	1931	113	3	14		11	141	197
8-11a—County Road at Dublin junction of King's Highway No. 8	1930	461	41	48		46	596	823
	1931	412	19	52		50	533	688

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
PERTH COUNTY—FALL:								
Perth 1a—Listowel-Elmira Road at junction of Stratford-Dorking-Drayton Road	1930	170	1	19	....	42	232	340
	1931	154	1	20	....	32	207	300
Perth 1b—Stratford-Dorking-Drayton Road at junction of Listowel-Elmira Road	1930	66	....	11	....	15	92	103
	1931	93	....	16	....	18	127	164
7-8a—Fairview Road south of Stratford at King's Highway No. 7	1930	167	3	79	....	6	255	332
	1931	139	1	11	....	3	154	205
7-9a—Tavistock Road at Shakespeare	1930	586	9	71	....	19	685	1,127
	1931	545	7	96	....	12	660	840
8-10a—St. Mary's Road east of Sebringville	1930	147	2	18	....	12	179	219
	1931	109	....	11	....	11	131	152
8-11a—County Road at Dublin, junction of King's Highway No. 8	1930	517	13	42	....	95	667	997
	1931	408	7	50	....	52	517	616
PRESCOTT COUNTY—SUMMER:								
Prescott 1a—County Road No. 9 at junction of County Road No. 10	1930	204	24	29	....	19	276	468
	1931	210	23	39	....	17	289	498
Prescott 1b—County Road No. 10 at junction of County Road No. 9	1930	150	18	18	....	10	196	341
	1931	142	14	24	....	14	194	345
17-9a—County Road one mile west of Alfred at junction of King's Highway No. 17	1930	77	12	8	....	82	179	229
	1931	71	7	14	....	92	184	277
PRESCOTT COUNTY—FALL:								
Prescott 1a—County Road No. 9 at County Road No. 10 (north and south)	1930	194	23	22	....	16	255	571
	1931	206	19	27	....	20	272	404
Prescott 1b—County Road No. 10, at County Road No. 9 (east)	1930	113	13	13	....	11	150	281
	1931	121	10	18	....	14	163	220

17–9a—County Road one mile west of Alfred at junction of King's Highway No. 17	1930	69	8	10	....	80	167	224
	1931	58	7	12	....	102	179	238
PRINCE EDWARD COUNTY—SUMMER:								
Prince Edward 1a—High Shore Road at junction of Demorestville Road	1930	126	9	14	....	17	166	239
	1931	137	6	12	....	15	170	247
Prince Edward 1b—Demorestville Road at junction of High Shore Road	1930	240	6	60	....	18	324	423
	1931	219	3	26	....	24	272	372
Prince Edward 2a—County Road No. 1 at junction of Bay Road near Murray Bay	1930	235	13	38	4	10	300	478
	1931	211	11	26	3	4	255	484
Prince Edward 2b—Rossmore-Murray Bay Road	1931	151	8	28	1	4	192	339
14–1a—Wellington Road at Bloomfield at junction of King's Highway No. 14	1930	343	16	86	5	34	484	604
	1931	374	20	84	4	29	511	694
14–2a—County Road at Rossmore at junction of King's Highway No. 14	1930	329	15	53	....	11	408	531
	1931	249	8	45	....	8	310	417
PRINCE EDWARD COUNTY—FALL:								
Prince Edward 1a—High Shore Road at Demorestville	1930	153	5	14	....	19	191	272
	1931	123	2	15	....	9	149	190
Prince Edward 1b—Demorestville Road at High Shore Road	1930	276	3	38	....	31	348	522
	1931	222	2	19	....	12	255	401
Prince Edward 2a—County Road No. 1 at junction of Bay Road near Murray Bay	1930	312	4	57	4	5	382	689
	1931	288	3	38	4	7	340	484
Prince Edward 2b—Rossmore-Murray Bay Road at junction of County Road No. 1	1930	134	2	24	....	2	162	353
	1931	119	1	19	....	3	142	223
14–1a—Wellington Road at Bloomfield at junction of King's Highway No. 14	1930	283	2	91	7	16	498	637
	1931	381	3	65	6	13	468	520
14–2a—County Road at junction of King's Highway No. 14	1930	302	2	63	1	8	376	477
	1931	285	3	55	1	5	349	415
RENFREW COUNTY—SUMMER:								
Renfrew 1—Renfrew-Douglas Road at McDougal	1930	260	18	22	1	13	314	473
	1931	164	6	16	....	16	202	210
Renfrew 2—Pembroke-Douglas Road at Rankin	1930	428	12	35	2	24	501	818
	1931	332	7	27	1	25	392	513
Renfrew 3—Westmeath Road at Lapasse Road	1930	48	2	6	....	7	63	90
	1931	48	1	9	....	6	64	87

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
Renfrew 3a—Lapasse Road at Westmeath Road	1930	45	1	4	....	9	59	95
	1931	36	2	5	1	4	48	78
17-1a—Beachburg Road at King's Highway No. 17	1930	183	9	13	....	21	226	337
	1931	200	7	22	....	30	259	278
17-3a—County Road at Lot 21, Concession 1, Admaston Township	1930	346	14	57	....	17	434	758
	1931	186	6	16	....	2	210	270
17-4a—Renfrew County Road half mile west of Arnprior	1930	219	11	15	....	25	270	437
	1931	184	14	12	....	16	226	357
RENFREW COUNTY—FALL:								
Renfrew 1—Renfrew-Douglas Road at McDougal	1930	149	6	15	1	14	185	253
	1931	172	4	16	....	13	205	265
Renfrew 2—Pembroke-Douglas Road at Rankin	1930	292	10	26	1	20	349	527
	1931	261	8	26	1	26	322	440
Renfrew 3—Westmeath Road at Lapasse Road	1930	39	1	5	....	13	58	81
	1931	40	1	7	....	17	65	96
Renfrew 3a—Lapasse Road at Westmeath Road	1930	35	1	5	....	8	48	58
	1931	31	2	8	....	18	59	73
17-1a—Beachburg Road at Lot 7, Concessions 1 and 11, Ross Township	1930	147	3	15	....	23	188	274
	1931	163	2	21	....	28	214	261
17-3a—County Road at Lot 21, Concession 1, Admaston Township	1930	157	3	21	....	5	186	290
	1931	113	2	13	....	4	132	158
17-4a—Renfrew County Road half mile west of Arnprior	1930	185	10	11	....	24	230	303
	1931	191	4	20	....	45	260	316
RUSSELL COUNTY—SUMMER:								
Russell 1a—Townline Road between Townships of Russell and Cumberland	1930	14	....	1	....	6	21	28
	1931	19	....	1	....	7	27	46
Russell 2a—Embrun-Casselman Road at Townline Road between Russell and Cambridge Townships	1930	146	12	38	....	55	251	374
	1931	132	6	23	....	50	211	347

Russell 2b—Townline Road between Russell and Cambridge Townships at junction of Embrun-Casselman Road	1930	78	7	28	....	45	158	235
	1931	76	3	15	....	44	138	190
RUSSELL COUNTY—FALL:								
Russell 1—Townline Road between Russell and Cumberland Township	1930	26	....	3	....	8	37	48
	1931	18	....	2	....	7	27	59
Russell 2a—Embrun-Casselman Road at Townline Road between Russell and Cambridge Townships	1930	242	28	29	....	49	348	547
	1931	240	17	33	1	72	363	403
Russell 2b—Townline Road between Russell and Cambridge Townships at the junction of Embrun-Casselman Road	1930	107	13	19	....	37	176	257
	1931	155	8	20	....	67	250	337
STORMONT COUNTY—SUMMER:								
Stormont 1a—Cornwall Road at Monklands	1930	321	23	30	....	39	413	489
	1931	230	17	25	....	33	305	423
Stormont 1b—Finch Road at Monklands	1930	369	25	37	....	44	475	561
	1931	284	24	31	....	38	377	496
STORMONT COUNTY—FALL:								
Stormont 1a—Cornwall Road at Monklands	1930	334	13	41	....	41	429	635
	1931	223	18	28	....	23	292	343
Stormont 1b—Finch Road at Monklands	1930	377	15	48	....	49	489	716
	1931	284	20	41	....	29	374	445
Stormont 2a—County Road No. 18 at County Road No. 16	1931	403	16	85	....	68	572	813
Stormont 2b—County Road No. 16 at County Road No. 18	1931	529	25	135	....	59	748	817
SIMCOE COUNTY—SUMMER:								
Simcoe 2a—County Road No. 14 at junction of County Road No. 13, Lots 24, 25, Concessions 8 and 9, Nottawasaga Township	1930	512	15	53	1	29	610	918
	1931	637	27	62	....	20	746	1,106
Simcoe 2b—County Road No. 13 at junction of County Road No. 14, Lots 24, 25, Concessions 8 and 9, Nottawasaga Township	1930	341	9	30	1	27	408	617
	1931	358	18	30	....	21	427	644
Simcoe 3—Bradford-Bondhead Road at Bradford	1930	282	8	35	....	12	337	494
	1931	330	9	40	1	8	388	607
Simcoe 4a—County Road No. 9 at junction of County Road No. 7, Lots 21, 22, Concession 4, Sunnidale Township	1930	186	3	106	....	6	301	459
	1931	112	1	15	....	6	134	161

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

Daily Average

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
Simcoe 4b—County Road No. 7 at junction of County Road No. 9, Lots 21 and 22, Concession 4, Sunnidale Township	1930	272	6	110	....	7	395	616
	1931	242	4	24	....	8	278	467
Simcoe 5a—County Road No. 1 at junction of County Road No. 10, Lots 5, 6, Concessions 7 and 8, Tecumseh Township	1930	579	26	82	3	18	708	1,784
	1931	267	3	34	....	7	311	565
Simcoe 5b—County Road No. 10 at junction of County Road No. 1, Lots 5, 6, Concessions 7 and 8, Tecumseh Township	1930	504	20	71	....	13	608	1,710
	1931	227	2	34	....	6	269	475
11-5a—Penetang Road at Crown Hill	1930	581	23	38	7	11	660	1,690
	1931	556	47	32	7	7	649	937
11-6a—County Road at south limits of Orillia	1930	387	11	31	....	21	450	585
	1931	260	6	67	....	14	347	496
11-7a—Sparrow Lake Road at King's Highway No. 11	1930	178	16	9	....	3	206	338
	1931	130	14	19	....	1	164	252
26-2a—Brentwood-Collingwood Road at Sunnidale Corners	1930	351	19	24	2	14	410	670
	1931	453	13	30	....	11	507	939
Simcoe County—Fall:								
Simcoe 2a—County Road No. 14, at Lots 24 and 25, Concessions 8 and 9, Nottawasaga Township	1930	Under con	struction					
	1931	434	7	43	....	14	498	763
Simcoe 2b—County Road No. 13 at junction of County Road No. 14	1930	Under con	struction					
	1931	257	6	32	....	18	313	441
Simcoe 3—Bradford-Bondhead Road at Bradford	1930	362	2	43	....	14	421	636
	1931	421	4	57	....	19	501	612
Simcoe 4a—County Road No. 9 at Lots 21 and 22, Concession 4, Sunnidale Township	1930	159	....	12	....	6	177	228
	1931	113	1	9	....	5	128	166
Simcoe 4b—County Road No. 7 at junction of County Road No. 9	1930	224	....	18	....	9	251	372
	1931	165	3	13	....	7	188	278

Simcoe 5a—County Road No. 1 at Lots 5, 6, Concessions 7 and 8, Tecumseh Township	1930	271	1	36	1	8	317	514
	1931	296	1	59	....	10	366	535
Simcoe 5b—County Road No. 10 at junction of County Road No. 1	1930	211	1	35	1	7	255	402
	1931	230	1	53	....	7	291	417
11-5a—Penetang Road at Crown Hill	1930	369	11	22	4	16	422	880
	1931	279	5	21	....	5	310	461
11-6a—County Road at south limits of Orillia	1930	369	2	74	....	24	469	661
	1931	405	6	100	....	25	536	657
11-7a—Sparrow Lake Road at King's Highway No. 11	1930	53	....	99	....	2	154	291
	1931	57	1	6	....	3	67	109
26-2a—Brentwood-Collingwood Road at Sunnidale Corners	1930	261	3	19	....	16	299	519
	1931	279	2	26	....	12	319	417
VICTORIA COUNTY—SUMMER:								
7-19a—Little Britain Road at west limits of Lindsay	1930	556	11	39	1	12	619	1,094
	1931	453	12	32	1	14	512	641
7-20a—Newcastle Road, south of Lindsay at King's Highway No. 7	1930	434	18	28	....	13	493	1,429
	1931	326	17	17	....	11	371	586
35-1a—Cambria Road near Shier's Bridge	1930	165	1	11	....	2	179	488
	1931	140	1	14	....	1	156	222
36-1a—Downeyville Road at Highway No. 36	1930	158	5	15	....	7	185	293
	1931	241	11	28	....	36	316	398
VICTORIA COUNTY—FALL:								
7-19a—Little Britain Road at west limits of Lindsay	1930	391	5	31	....	17	444	643
	1931	396	5	47	....	9	457	553
7-20a—Newcastle Road, south of Lindsay at King's Highway No. 7	1930	297	1	30	....	19	347	515
	1931	297	1	26	....	10	334	430
35-1a—Cambria Road near Shier's Bridge	1930	143	....	10	....	2	155	210
	1931	136	....	18	....	8	162	268
36-1a—Omemee Road at Dunsford	1930	194	4	12	....	31	241	296
	1931	234	2	19	....	38	293	359
WATERLOO COUNTY—SUMMER:								
Waterloo 1a—Waterloo-Elmira Road at St. Clements Road	1930	863	54	196	9	192	1,314	1,651
	1931	1,098	48	175	10	157	1,488	2,588
Waterloo 1b—St. Clements Road at Waterloo-Elmira Road	1930	687	30	134	3	137	991	1,238
	1931	559	21	98	....	106	784	1,324
Waterloo 2a—Montrose-Winterbourne Road at junction of Montrose-Guelph Road	1930	161	2	14	....	17	194	318
	1931	147	....	16	....	14	177	294
Waterloo 2b—Montrose-Guelph Road at junction of Montrose-Winterbourne Road	1930	183	3	16	....	16	218	341
	1931	164	....	16	....	12	192	325

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
7–10a—Wellesley Road north of Baden	1930	258	5	48	2	9	322	509
	1931	232	2	45	2	8	289	483
7–11a—Preston-Conostoga Road east of Kitchener	1930	189	6	19	....	9	223	344
	1931	214	4	22	....	5	245	524
24a–2a—Ayr Road at Paris-Galt Highway	1930	31	1	5	....	1	38	73
	1931	129	3	12	....	1	145	229
WATERLOO COUNTY—FALL:								
Waterloo 1a—Waterloo-Elmira Road at St. Clements Road	1930	765	12	177	9	178	1,141	1,287
	1931	933	18	175	10	165	1,301	1,547
Waterloo 1b—St. Clements Road at Elmira Road	1930	598	5	113	....	124	840	968
	1931	718	10	119	....	115	962	1,129
Waterloo 2a—West Montrose-Winterbourne Road at West Montrose-Guelph Road	1930	162	1	15	....	18	196	373
	1931	130	....	12	1	14	157	223
Waterloo 2b—West Montrose-Guelph Road at West Montrose-Winterbourne Road	1930	143	1	14	....	14	172	321
	1931	151	....	12	1	13	177	266
7–10a—Wellesley Road at Baden	1930	258	5	49	2	9	323	520
	1931	253	3	50	2	5	313	466
7–11a—Preston-Conestago Road east of Kitchener	1930	173	1	20	....	4	198	446
	1931	341	....	30	....	7	378	676
24a–4a—Ayr Road at Paris-Galt Highway	1930	41	....	6	....	2	49	83
	1931	Not taken						
WELLAND COUNTY—SUMMER:								
Welland 1a—Canboro Road (east and west) at Fenwick	1930	878	63	158	9	41	1,149	1,311
	1931	658	61	98	6	27	850	1,284
Welland 1b—South Pelham Road at Fenwick	1930	285	17	54	....	14	370	449
	1931	318	11	47	....	17	393	506
Welland 2a—Crowland Road at Cook's Mills	1930	724	155	101	....	6	986	1,501
	1931	719	119	94	1	7	940	1,549
Welland 2b—Humberstone Road at Cook's Mills	1930	430	108	54	....	2	594	959
	1931	412	74	52	....	2	540	858
3–17a—County Road No. 15 at junction of King's Highway No. 3	1930	157	7	14	1	1	180	349
	1931	190	13	21	....	2	226	441

3-21a—Welland Canal Road at junction of King's Highway No. 3	1930	2,030	406	404	41	12	2,893	3,616
	1931	1,718	254	311	32	4	2,319	3,174
3-22a—Ridgeway Road at junction of King's Highway No. 3	1930	978	7,015	189	59	8	8,249	11,954
	1931	1,089	6,429	196	45	6	7,765	9,609
3-22b—Chippewa Road at King's Highway No. 3	1930	551	299	108	1	8	967	1,493
	1931	563	448	114	....	5	1,130	1,759
3a-2a—County Road No. 17 at Beckett's Bridge	1930	351	39	57	....	5	452	850
	1931	184	17	22	....	1	224	400
3a-2b—County Road No. 7 at Beckett's Bridge	1931	146	9	20	....	3	178	373
20-4a—St. Catharines Road at junction of Fonthill Road Road and Highway No. 20	1930	1,185	323	173	4	2	1,687	2,504
	1931	1,250	291	197	2	2	1,742	2,663
20-4b—Fonthill Road at junction of St. Catharines Road at Highway No. 20	1930	884	261	109	....	2	1,256	1,875
	1931	689	187	170	....	2	1,048	1,520
20-5a—Montrose Road west of Niagara Falls at King's Highway No. 20	1930	427	122	108	....	9	666	914
	1931	711	120	83	....	6	920	1,725
8-1a—Thorold Road at South End Corner	1930	765	135	77	....	2	979	1,188
	1931	987	176	148	....	8	1,319	1,718
8-1b—Portage Road at South End Corner	1930	1,063	220	111	....	4	1,398	1,732
	1931	1,025	319	173	1	4	1,522	1,998
Niagara Boulevard near Niagara Falls	1930	1,172	2,430	122	31	2	3,757	5,699
	1931	1,066	1,958	115	28	2	3,169	4,872
WELLAND COUNTY—FALL:								
Welland 1a—Canboro Road at Fenwick, east and west	1930	780	45	159	7	46	1,037	1,626
	1931	799	30	119	1	31	980	1,937
Welland 1b—South Pelham Road at Fenwick South	1930	250	9	54	....	22	355	493
	1931	410	6	65	1	19	501	1,540
Welland 2a—Crowland Road at Cook's Mills east and west	1930	708	69	96	....	6	879	1,520
	1931	640	46	85	....	6	777	943
Welland 2b—Humberstone Road at Cook's Mills South	1930	367	48	40	....	3	458	818
	1931	357	30	41	....	2	430	531
3-17a—County Road No. 15 at junction of Highway No. 3	1930	173	14	19	1	1	208	336
	1931	192	26	30	....	3	251	334
3-21a—Welland Canal Road at junction of Highway No. 3	1930	1,503	140	313	39	13	2,008	2,552
	1931	1,510	152	288	35	7	1,992	2,373
3-22a—Ridgeway Road at junction of King's Highway No. 3	1930	750	1,364	113	17	18	2,271	3,361
	1931	767	1,163	111	16	7	2,064	2,610
3-22b—Chippewa Road at King's Highway No. 3	1930	441	161	47	....	19	668	1,028
	1931	382	106	84	....	5	577	627

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
3a-2a—County Road No. 17 at Beckett's Bridge	1930	312	19	56	....	3	390	883
	1931	224	8	29	....	3	264	376
3a-2b—County Road No. 7 at Beckett's Bridge	1931	112	3	15	....	1	131	198
20-4a—St. Catharines Road at junction of Fonthill Road and Highway No. 20	1930	1,057	140	145	1	2	1,345	2,202
	1931	1,016	168	177	....	1	1,362	2,008
20-4b—Fonthill Road at junction of St. Catharines Road and Highway No. 20	1930	780	166	90	....	1	1,037	2,324
	1931	759	135	142	....	4	1,040	1,377
20-5a—Montrose Road west of Niagara Falls at King's Highway No. 20	1930	526	75	87	....	4	692	1,181
	1931	462	41	95	1	7	606	771
8-1a—Thorold Road at South End Corner	1930	923	128	129	....	5	1,185	1,633
	1931	880	110	125	....	4	1,119	1,258
8-1b—Portage Road at South End Corner	1930	1,085	215	194	3	6	1,503	2,123
	1931	860	156	132	1	4	1,153	1,497
Niagara Boulevard, near Niagara Falls	1930	791	1,184	86	19	3	2,083	4,151
	1931	773	829	73	16	2	1,693	2,472
WELLINGTON COUNTY—SUMMER:								
Wellington 1a—Archibald-Foley Sideroad at Alma	1930	69	1	7	....	19	96	146
	1931	150	....	24	....	13	187	257
Wellington 1b—Elora Road at Alma	1930	436	12	56	....	74	578	795
	1931	643	11	170	....	81	905	1,160
Wellington 1c—Elmira Road at Alma	1930	208	5	21	....	24	258	380
	1931	216	3	94	....	21	334	432
Wellington 2—Harriston—Shelburne Road west of Mount Forest	1930	371	11	31	....	29	442	578
	1931	381	15	33	....	36	465	628
Wellington 3—Elora-Fergus Road, east of Elora	1930	554	30	120	8	17	729	1,012
	1931	421	21	64	5	22	533	802
Wellington 4a—County Road No. 61 at junction of County Road No. 65	1930	340	6	31	....	11	388	706
	1931	331	8	28	....	16	383	771
Wellington 4b—County Road No. 65 at junction of County Road No. 61	1930	212	3	24	....	7	246	485
	1931	204	4	15	....	14	237	495

6-9a—Elora Road at Highway No. 6	1930	Under construction						
	1931	600	24	60	5	8	697	1,425
9-3a—Clifford-Hanover Road at Clifford Village	1930	Under construction						
	1931	162	8	29	....	12	211	334
WELLINGTON COUNTY—FALL:								
Wellington 1a—Archibald-Foley Sideroad at Alma	1930	74	1	9	....	15	99	140
	1931	90	....	8	....	10	108	155
Wellington 1b—Elora Road at Alma	1930	544	4	65	....	81	694	1,123
	1931	564	5	79	....	91	739	913
Wellington 1c—Elmira Road at Alma	1930	199	1	19	....	18	237	415
	1931	182	1	22	....	22	227	335
Wellington 2—Harriston-Shelburne Road southwest of Mount Forest	1930	379	7	47	....	43	476	649
	1931	293	7	27	....	30	357	431
Wellington 3—Elora-Fergus Road, east of Elora	1930	621	31	83	6	17	758	1,243
	1931	393	7	79	3	28	510	620
Wellington 4a—County Road No. 61 (Guelph to Erin) at junction of County Road No. 65	1930	244	3	48	1	12	308	502
	1931	265	3	40	....	11	319	460
Wellington 4b—County Road No. 65 (Georgetown to Hillsburg) at junction of County Road No. 61	1930	208	2	50	....	14	274	501
	1931	172	2	45	....	6	225	335
6-9a—Elora Road at King's Highway No. 6	1930	Under construction						
	1931	643	9	60	4	12	728	1,316
9-3a—Clifford-Hanover Road at Clifford	1930	Under construction						
	1931	188	3	23	....	12	226	316
WENTWORTH COUNTY—SUMMER:								
6-4a—County Road at Concessions 5 and 6, Glanford Township	1930	174	2	20	....	8	204	255
	1931	161	4	25	....	6	196	293
6-7a—Brock Road at Freelton	1930	162	3	19	....	5	189	344
	1931	165	5	22	....	4	196	308
8-5a—Old Stoney Creek Road at King's Highway No. 8	1930	801	122	77	....	1	1,001	1,355
	1931	645	34	105	25	3	812	1,268
8-7a—Brock Road at Bullock's Corners	1930	668	17	84	....	10	779	1,056
	1931	563	12	82	....	9	666	873
WENTWORTH COUNTY—FALL:								
6-4a—County Road at Concessions 6 and 7, Glanford Township at King's Highway No. 6	1930	180	2	35	....	5	222	306
	1931	182	1	33	....	8	224	284
6-7a—Brock Road at Freelton	1930	177	1	25	....	10	213	357
	1931	185	4	22	....	9	220	316

COUNTY ROAD TRAFFIC CENSUS—1930 and 1931—Continued

DAILY AVERAGE

Station and Location of Observer	Year	Automobiles		Trucks	Busses	Horse-drawn Vehicles	Total Daily Average	Maximum for One Day
		Ontario	Foreign					
8-5a—Old Stoney Creek Road at King's Highway No. 8	1930	561	18	132	....	2	713	962
	1931	586	28	87	23	1	725	1,162
8-7a—Brock Road at Bullock's Corners	1930	678	9	84	1	9	781	1,451
	1931	590	7	67	....	9	673	926
YORK COUNTY—SUMMER:								
York 2—Weston Road at Eglinton Avenue	1930	5,400	49	1,448	10	76	6,983	8,055
	1931	5,198	59	1,233	7	67	6,564	6,992
York 3—Vaughan Road at Eglinton Avenue	1930	4,038	71	918	10	40	5,077	6,801
	1931	4,615	73	921	9	24	5,642	8,027
York 4a—Schomberg Road at Kleinburg	1930	758	7	109	4	8	886	1,793
	1931	792	13	110	2	5	922	2,137
York 4b—Nashville Road at Kleinburg	1930	303	3	38	....	5	349	676
	1931	257	4	35	....	3	299	607
2-19a—Markham Road at Danforth Avenue	1930	2,842	57	485	79	47	3,510	4,569
	1931	2,857	29	470	73	30	3,459	5,632
2-20a—Old Kingston Road at Danforth Avenue	1930	4,290	806	381	3	6	5,486	8,405
	1931	5,217	775	559	3	15	6,569	10,394
5-1a—Dundas Street at Islington	1930	3,992	208	670	54	8	4,932	5,715
	1931	4,538	188	892	71	9	5,698	7,927
11-1a—Lansing Corner, traffic east of Yonge Street	1930	1,385	26	287	....	18	1,716	2,124
	1931	1,137	12	196	....	10	1,355	2,220
11-1b—Lansing Corner, traffic west of Yonge Street	1930	485	6	119	....	13	623	817
	1931	387	4	97	....	10	498	629
YORK COUNTY—FALL:								
York 2—Weston Road at Eglinton Avenue	1930	5,521	53	1,070	8	75	6,627	8,082
	1931	5,095	18	1,292	7	59	6,471	8,043
York 3—Vaughan Road at Eglinton Avenue	1930	3,682	21	1,017	9	53	4,782	7,612
	1931	4,018	29	834	6	36	4,923	7,002
York 4a—Schomberg Road at Kleinburg, traffic north and south	1930	847	2	133	4	13	999	2,382
	1931	785	2	134	3	9	933	1,728
York 4b—Nashville Road at Kleinburg, traffic west	1930	246	1	42	....	8	297	572
	1931	213	1	36	....	6	256	406
2-19a—Markham Road at Danforth Avenue	1930	2,817	28	488	74	39	3,446	5,961
	1931	2,500	9	537	70	20	3,136	4,477

2-20a—Old Kingston Road at Danforth Avenue	1930	3,128	182	408	2	4	3,724	6,695
	1931	4,533	314	553	3	9	5,412	8,080
2-21½—Lansing Cut-off on Highway No. 2	1931	1,097	30	58	....	....	1,185	3,401
5-1a—Dundas Street at Islington	1930	2,916	109	518	67	5	3,615	6,415
	1931	3,907	88	665	54	5	4,719	8,113
11-1a—Lansing Corner, traffic east of Yonge Street	1930	1,192	7	489	1	8	1,697	1,887
	1931	1,127	12	167	....	8	1,314	2,318
11-1b—Lansing Corner, traffic west of Yonge Street	1930	543	6	350	....	6	905	1,057
	1931	323	1	91	....	9	424	516

Report of Motor Vehicles Branch, 1930

By J. P. Bickell, Registrar of Motor Vehicles

To The Honourable Leopold Macaulay,
Minister of Highways.

Sir,—I have the honour to submit herewith the Annual Report of the Motor Vehicles Branch for the year 1930.

Registrations

Tables showing the motor vehicles registrations for the Province for the calendar year 1930, arranged according to residence of owner, horse-power of passenger cars, gross weight of commercial motor vehicles and trailers, are attached hereto. The total motor vehicles registered during the year 1930 numbered 562,506 as against 540,207 for 1929, an increase of 22,299 vehicles or approximately 4 per cent.

Drivers' Licenses

During the year there were issued 533,429 operators' licenses and 140,265 chauffeur licenses, a total of 673,694 licenses to operate motor vehicles. The total of such licenses issued in 1929 amounted to 585,074.

Revenue

A detailed statement of the revenue collected from various sources during the fiscal year ending October 31st, which has been duly certified as to accuracy by the Provincial Auditor, is attached. This statement shows the net revenue of the Branch for the year to have been $5,547,254.58. This is a decrease of $2,301,194.00 for the year, the revenue for 1929 being $7,848,448.58. This decrease is accounted for by the fact that the fees for the registration of motor vehicles were reduced in 1930, the minimum fee for passenger cars being reduced from $9.00 to $5.00 and for trucks from $16.00 to $9.00. The average fee for the registration of passenger cars in 1930 was but $6.04 as compared with $10.46 in 1929, for trucks, $22.44 in 1930 and $29.49 in 1929. A comparative statement of the revenue collected for motor vehicle permits, etc., from the years 1904 to 1930, inclusive is also attached.

Highway Traffic Officers

The Force of Highway Traffic Officers, numbering sixty-eight men and three inspectors, was transferred on the 1st of March, 1930, to the Provincial Police Department. The Highway Traffic Officers, whose sole duty it was to regulate traffic and enforce the provisions of The Highway Traffic Act, had been attached to this Department since the year 1919.

Highway Safety

During the year 1930, $49,802.52 was expended under the direction of the Registrar of Motor Vehicles in what has been termed Highway Safety Publicity. During the years 1927, 1928 and 1929 this work was carried on over the signature of the Highway Safety Committee, which Committee was organized by the Minister of Highways who acted as President. The Committee was composed of representative business men from various parts of the Province and the Registrar of Motor Vehicles acted as Secretary. In 1930, this form of publicity, which was designed to increase the safety of our highways, was conducted over the signature of the Minister of Highways rather than that of a committee. Newspaper and periodical advertising, billboard posting and motion pictures were all used and, in addition, safety literature was distributed to the school children. A motion picture filmed especially for the Department by the Provincial Motion Picture Bureau was used and shown in several hundreds of theatres, throughout the Province.

Eastern Conference of Motor Vehicle Administrators

The Registrar of Motor Vehicles attended the semi-annual meetings of the Conference and at the May meeting was elected Secretary.

Public Vehicles

Motor busses licensed by the Department pursuant to The Public Vehicle Act increased in number from 587 in 1929 to 643 in 1930.

Public Commercial Vehicles

Public commercial vehicles licensed pursuant to The Public Commercial Vehicle Act numbered 1,155 for the year 1930.

Safety Responsibility Legislation

On the 1st of September, 1930, Parts XIII and XIV of The Highway Traffic Act, dealing with the subject of the financial responsibility of motor car owners and drivers and accident reporting, became effective. A statement showing the motor car owners and drivers who, by act or omission, brought themselves under the provisions of the Financial Responsibility Part is attached hereto as is also a detailed statement of the accidents reported pursuant to Part XIV of the Act. Both of these statements cover the period from September 1st to December 31st.

Respectfully submitted,

J. P. Bickell,
Registrar of Motor Vehicles.

Toronto, April 16th, 1932.

MOTOR VEHICLE REGISTRATIONS FOR THE YEARS 1904-1930, INCLUSIVE

Year	Passenger Cars	Owned in Ontario	Others	Commercial Vehicles	Two-Purpose Vehicles	Motor cycles	Trailers	Public Vehicles		Public Commercial Vehicles	
								Oper.	Licenses	Oper.	Licenses
1904	535	...	...	...	...	...	...	...	...	...	...
1905	553	...	...	...	...	...	...	...	...	...	...
1906	1,176	517	659	...	...	...	...	...	...	...	...
1907	1,530	550	980	...	...	...	...	...	...	...	...
1908	1,754	589	1,165	...	...	...	...	...	...	...	...
1909	2,452	1,020	1,432	...	...	...	...	...	...	...	...
1910	4,230	1,977	2,253	...	...	...	...	...	...	...	...
1911	11,339	7,338	4,001	...	...	...	...	...	...	...	...
1912	16,268	11,939	4,327	...	...	1,754	...	...	...	...	...
1913	23,700	17,750	5,950	...	...	2,900	...	...	...	...	...
1914	31,724	25,308	6,416	...	...	3,633	...	...	...	...	...
1915	42,346	36,661	5,685	...	...	4,174	...	...	...	...	...
1916	51,589	50,587	1,002	2,786	...	4,287	...	...	...	...	...
1917	78,861	78,475	386	4,929	...	5,180	...	...	...	...	...
1918	101,845	101,599	246	7,529	...	5,002	...	...	...	...	...
1919	127,860	127,512	348	11,428	...	5,516	...	...	...	...	...
1920	155,861	155,519	342	16,204	...	5,496	...	...	...	...	...
1921	181,978	181,686	292	19,554	...	4,989	327	...	...	...	...
1922	210,333	210,008	325	24,164	...	4,799	463	...	...	...	...
1923	245,815	245,435	380	28,612	...	4,325	591	...	...	...	...
1924	271,341	270,876	465	31,488	...	3,941	778	50	102	...	...
1925	303,736	303,216	520	34,690	...	3,748	1,058	91	216	...	...
1926	343,992	343,586	406	39,012	...	3,345	1,398	107	384	...	...
1927	386,903	386,311	592	43,442	...	3,159	1,962	103	480	...	...
1928	429,426	428,890	536	54,714	...	3,197	3,281	104	522	367	945
1929	473,222	472,634	588	55,218	8,226	3,541	4,903	80	587	285	1,118
1930	490,906	490,270	636	61,690	5,986	3,924	7,111	95	643	372	1,155

CHAUFFEUR AND OPERATORS LICENSES ISSUED FOR THE YEARS 1912-1930, INCLUSIVE

Year	Chauffeurs	Operators
1912	2,965	......
1913	3,514	......
1914	3,773	......
1915	5,322	......
1916	5,966	......
1917	8,214	......
1918	10,629	......
1919	15,400	......
1920	19,563	......
1921	21,808	......
1922	25,301	......
1923	27,033	......
1924	29,676	......
1925	33,740	......
1926	39,513	......
1927	64,916	444,472
1928	89,965	81,022
1929	111,861	473,213
1930	140,265	533,429

MOTOR VEHICLE REGISTRATIONS, 1930

Automobile permits	490,906
Commercial permits	61,690
Convertible permits	5,986
Trailer permits	7,111
Motorcycle permits	3,924
Automobile dealers' permits	1,862
Commercial dealers' permits	126
Motorcycle dealers' permits	23
Operators	533,429
Chauffeurs	140,265
Garages	3,286
In transits	22,747
Transfers	78,876
Public vehicles	643
Public commercial vehicles	1,155

Compiled by
Motor Vehicles Branch
Department of Highways

PASSENGER CARS REGISTERED, 1930

Counties		Cities		Total
Algoma	2,772	Sault Ste. Marie	3,142	5,914
Brant	3,543	Brantford	4,359	7,902
Bruce	6,561			6,561
Carleton	4,560	Ottawa	14,240	18,800
Dufferin	2,959			2,959
Dundas	2,783			2,783
Durham	3,871			3,871
Elgin	5,267	St. Thomas	3,329	8,596
Essex	15,555	Windsor	11,177	26,732
Frontenac	3,024	Kingston	3,375	6,399
Glengarry	2,018			2,018
Grenville	2,457			2,457
Grey	7,003	Owen Sound	1,972	8,975
Haldimand	4,486			4,486
Haliburton	528			528
Halton	4,524			4,524
Hastings	7,463	Belleville	2,480	9,943
Huron	8,282			8,282
Kenora	1,139			1,139
Kent	9,091	Chatham	3,116	12,207
Lambton	7,601	Sarnia	3,417	11,018
Lanark	4,644			4,644
Leeds	5,261			5,261
Lennox and Addington	2,978			2,978
Lincoln	4,375	St. Catharines	4,068	8,443
Manitoulin	1,625			1,625
Middlesex	9,670	London	11,690	21,360
Muskoka	2,617			2,617
Nipissing	2,733	North Bay	1,674	4,407
Norfolk	5,134			5,134
Northumberland	4,808			4,808
Ontario	5,625	Oshawa	4,719	10,344
Oxford	7,218	Woodstock	2,971	10,189
Parry Sound	2,661			2,661
Peel	4,965			4,965
Perth	5,778	Stratford	2,742	8,520
Peterborough	3,455	Peterborough	3,370	6,825
Prescott	2,072			2,072
Prince Edward	3,109			3,109
Rainy River	1,483			1,483
Renfrew	5,161			5,161
Russell	1,715			1,715
Simcoe	11,889			11,889
Stormont	3,457			3,457
Sudbury	145	Sudbury	4,026	4,171

PASSENGER CARS REGISTERED—Continued

Counties		Cities		Total
Thunder Bay	1,072	Fort William	2,569	6,022
		Port Arthur	2,381	
Temiskaming	5,306		.....	5,306
Victoria	4,956		.....	4,956
Waterloo	6,786	Galt	2,260	13,560
		Kitchener	4,514	
Welland	7,664	Niagara Falls	4,155	14,476
		Welland	2,657	
Wellington	6,017	Guelph	3,166	9,183
Wentworth	5,577	Hamilton	20,562	26,139
York	17,427	Toronto	99,269	116,696
Foreign	636		.....	636
	263,506		227,400	490,906

MOTOR VEHICLE REGISTRATIONS

Horse-power

Of 25 horse-power or less	389,230	
More than 25 horse-power and up to 35 horse-power	96,372	
More than 35 horse-power	4,817	
Electric	12	
Steam	13	
Free	462	
		490,906

Registrations

Originals	54,416	
Renewals	436,490	
		490,906

COMMERCIAL CARS REGISTERED, 1930

Tires

Pneumatic	58,196	
Solid	1,978	
Municipal	814	
Ontario Government Dominion Government	702	
		61,690

Gross Weights—Pneumatic Tires

Less than two tons	19,137	
Of two tons and up to three tons	20,153	
More than three tons and up to four tons	9,424	
More than four tons and up to five tons	3,206	
More than five tons and up to six tons	1,519	
More than six tons and up to seven tons	1,118	
More than seven tons and up to eight tons	1,558	
More than eight tons and up to nine tons	738	
More than nine tons and up to ten tons	1,310	
More than ten tons	33	
		58,196

Gross Weights—Solid Tires

Less than two tons	94	
Of two tons and up to three tons	432	
More than three tons and up to four tons	100	
More than four tons and up to five tons	163	
More than five tons and up to six tons	218	
More than six tons and up to seven tons	222	
More than seven tons and up to eight tons	439	
More than eight tons and up to nine tons	119	
More than nine tons and up to ten tons	100	
More than ten tons and up to eleven tons	13	
More than eleven tons and up to twelve tons	78	
		1,978
Municipal	814	
Ontario Government Dominion Government	702	
		1,516
		61,690

CONVERTIBLE CARS REGISTERED, 1930

Convertible vehicles	5,986

COMMERCIAL CARS REGISTERED, 1930

Counties		Cities		Total
Algoma	413	Sault Ste. Marie	343	756
Brant	397	Brantford	687	1,084
Bruce	489			489
Carleton	487	Ottawa	1,908	2,395
Dufferin	195			195
Dundas	296			296
Durham	321			321
Elgin	515	St. Thomas	254	769
Essex	1,965	Windsor	1,943	3,208
Frontenac	296	Kingston	464	760
Glengarry	156			156
Grenville	277			277
Grey	384	Owen Sound	208	592
Haldimand	433			433
Haliburton	28			28
Halton	642			642
Hastings	801	Belleville	319	1,120
Huron	546			546
Kenora	201			201
Kent	785	Chatham	509	1,294
Lambton	547	Sarnia	298	845
Lanark	370			370
Leeds	526			526
Lennox and Addington	262			262
Lincoln	886	St. Catharines	728	1,614
Manitoulin	143			143
Middlesex	908	London	1,539	2,447
Muskoka	282			282
Nipissing	225	North Bay	242	467
Norfolk	711			711
Northumberland	610			610
Ontario	584	Oshawa	405	989
Oxford	959	Woodstock	235	1,194
Parry Sound	273			273
Peel	850			850
Perth	577	Stratford	275	852
Peterborough	211	Peterborough	420	631
Prescott	196			196
Prince Edward	394			394
Rainy River	345			345
Renfrew	436			436
Russell	346			346
Simcoe	1,024			1,024
Stormont	355			355
Sudbury	87	Sudbury	423	510
Thunder Bay	196	Fort William	416	948
		Port Arthur	336	
Temiskaming	525			525
Victoria	963			963
Waterloo	724	Galt	249	1,526
		Kitchener	553	
Welland	1,172	Niagara Falls	481	1,959
		Welland	306	
Wellington	468	Guelph	404	872
Wentworth	1,137	Hamilton	3,138	4,275
York	2,575	Toronto	14,581	17,156
Foreign	532			532
	30,026		31,664	61,690

Trailer Gross Weights, 1930

One ton or less	5,171	
More than one and up to two tons	591	
More than two and up to three tons	217	
More than three and up to four tons	171	
More than four and up to five tons	260	
More than five and up to six tons	169	
More than six and up to seven tons	76	
More than seven and up to eight tons	250	
More than eight and up to nine tons	8	
More than nine and up to ten tons	21	
Municipal	146	
Free	31	
		7,111

MOTOR VEHICLES BRANCH

Highways Department

Revenue for the Fiscal Year 1929-1930

		Gross	Deductions	Net
Automobile permits		$2,985,972 00	$104,081 25	$2,881,890 75
Commercial permits		1,404,448 40	14,466 55	1,389,981 85
Two purpose permits		54,229 50	1,449 85	52,779 65
Trailer permits		52,430 00	54 50	52,375 50
Motorcycle permits		11,355 50	271 50	11,084 00
Automobile dealer		37,339 00	40 00	37,299 00
Commercial dealer		5,905 00	....	5,905 00
Motorcycle dealer		132 00	....	132 00
Chauffeurs		164,937 00	8,474 60	156,462 40
Operators		520,883 50	45,102 80	475,780 70
Garages		27,950 00	20 00	27,930 00
Public vehicles		155,412 64	....	155,412 64
Public commercial vehicles		6,959 68	....	6,959 68
In transits		11,410 50	895 30	10,515 20
Duplicate cards and badges		10,406 50	....	10,406 50
Transfers		160,860 00	4,774 00	156,086 00
Certificates and searches		56 00	....	56 00
Lists		49 08	....	49 08
Fines		100,569 67	74 00	100,495 67
Postage		18 15	....	18 15
Miscellaneous		96 50	....	96 50
Testing headlights		155 00	....	155 00
Examination fees		17,875 00	....	17,875 00
		$5,729,450 62	$179,704 35	$5,549,746 27
Express charges paid by agents	$196 61			
Typewriter rent paid by agents	1,062 00			
Due from bonding company	1,423 60			
Due from agents	63 70	....	$2,745 91	....
		$5,729,450 62	$182,450 26	$5,547,000 36
1929 balances and interest		....	....	254 22
Total		....	....	$5,547,254 58

MOTOR VEHICLES BRANCH

Highways Department

Revenue for Fiscal Year 1929-1930

Automobile permits	$2,985,972 00		
Commercial permits	1,404,448 40		
Convertible permits	54,229 50		
Trailer permits	52,430 00		
Motorcycle permits	11,355 50		
Automobile dealer permits	37,339 00		
Commercial dealer permits	5,905 00		
Motorcycle dealer permits	132 00		
Chauffeurs	164,937 00		
Operators	520,883 50		
Garages	27,950 00		
Public vehicles	155,412 64		
Public commercial vehicles	6,959 68		
In transits	11,410 50		
Duplicate cards and badges	10,406 50		
Transfers	160,860 00		
Certificates and searches	56 00		
Lists	49 08		
Fines	100,569 67		
Postage	18 15		
Miscellaneous	96 50		
Testing headlights	155 00		
Examination fees	17,875 00		
		$5,729,450 62	
LESS:			
Commissions deducted by agents	$175,606 35		
Express charges paid by agents	196 61		
Rent of typewriters	1,062 00		
Cheques charged back by Provincial Treasurer	49 00		
Refunds deducted by Provincial Treasurer	4,049 00		
Due from bonding company	1,423 60		
Due from agents, 1930	63 70		
		$182,450 26	
			$5,547,000 36
1929 balances paid and interest			254 22
Total			$5,547,254 58

MOTOR VEHICLES BRANCH

Highways Department

Itemized Statement of Receipts for Fiscal Year 1929-1930

Automobiles—1929 Fees

4 Cylinders	
63 at $9.00	$567 00
1,512 at 4.50	6,804 00
6 Cylinders	
10 at $11.00	110 00
891 at 5.50	4,900 50
1 at 16.00	16 00
1,172 at 8.00	9,376 00
9 at 13.00	117 00
41 at 15.50	635 50
8-12 Cylinders	
67 at $10.50	703 50
27 at 15.50	418 50

1930 FEES

382,079 at $5.00	1,910,395 00	
5,398 at 2.50	13,495 00	
92,931 at 10.00	929,310 00	
2,461 at 5.00	12,305 00	
4,422 at 20.00	88,440 00	
297 at 10.00	2,970 00	
12 at 10.00, electric	120 00	
12 at 15.00, steam	180 00	
1 at 7.50, steam	7 50	
2,509 at 2.00, new sets	5,018 00	
22 new sets. No fee.		
466 free.		
(494,403) balance of fees	83 50	
		$2,985,972 00

COMMERCIALS—1929 FEES

Pneumatic Tires

356 at $8.00	$2,848 00
1 at 24.00	24 00
284 at 12.00	3,408 00
1 at 36.00	36 00
194 at 18.00	3,492 00
31 at 22.50	697 50
25 at 30.00	750 00
20 at 35.00	700 00
16 at 80.00	1,280 00
30 at 40.00	1,200 00
6 at 49.50	297 00
10 at 110.00	1,100 00
24 at 55.00	1,320 00

Solid Tires

7 at $13.50	94 50
2 at 20.00	40 00
2 at 25.00	50 00
6 at 38.50	231 00
1 at 58.50	58 50

1930 FEES

Pneumatic Tires

18,077 at $9.00	162,693 00
787 at 4.50	3,541 50
19,140 at 15.00	287,100 00
779 at 7.50	5,842 50
8,790 at 24.00	210,960 00
441 at 12.00	5,292 00
2,969 at 40.00	118,760 00
181 at 20.00	3,620 00
1,455 at 54.00	78,570 00
42 at 27.00	1,134 00
1,074 at 63.00	67,662 00
35 at 31.50	1,102 50
1,498 at 72.00	107,856 00
49 at 36.00	1,764 00
676 at 90.00	60,840 00
28 at 45.00	1,260 00
1,239 at 100.00	123,900 00
43 at 50.00	2,150 00
1 at 132.00	132 00
14 at 144.00	2,016 00
1 at 156.00	156 00
11 at 180.00	1,980 00

1930 FEES—Continued

Solid Tires

90 at $14.00	1,260 00	
4 at 7.00	28 00	
387 at 24.00	9,288 00	
38 at 12.00	456 00	
94 at 36.00	3,384 00	
4 at 18.00	72 00	
154 at 45.00	6,930 00	
9 at 22.50	202 50	
211 at 60.00	12,660 00	
7 at 30.00	210 00	
218 at 70.00	15,260 00	
3 at 35.00	105 00	
428 at 80.00	34,240 00	
8 at 40.00	320 00	
118 at 117.00	13,806 00	
99 at 130.00	12,870 00	
13 at 154.00	2,002 00	
73 at 168.00	12,264 00	
4 at 84.00	336 00	
806 at 2.00, municipal	1,612 00	
1,469 at 2.00, new sets	2,938 00	
6 new sets. No fee.		
723 free.		
(63,312) increased capacity and balance of fees	8,246 90	
		$1,404,448 40

TWO PURPOSE—1929 FEES

2 at $9.00	$18 00	
57 at 4.50	256 50	
3 at 8.00	24 00	

1930 FEES

5,819 at $9.00	$52,371 00	
120 at 4.50	540 00	
4 at 15.00	60 00	
2 at 7.50	15 00	
1 at 24.00	24 00	
1 at 2.00, municipal	2 00	
227 at 2.00, new sets	454 00	
1 new set. No fee.		
12 free.		
(6,249) increased capacity and balance of fees	465 00	
		$54,229 50

TRAILERS

4,444 at $3.00	$13,332 00	
668 at 1.50	1,002 00	
537 at 6.00	3,222 00	
49 at 3.00	147 00	
206 at 15.00	3,090 00	
11 at 7.50	82 50	
164 at 20.00	3,280 00	
8 at 10.00	80 00	
251 at 25.00	6,275 00	
13 at 12.50	162 50	
163 at 30.00	4,890 00	
7 at 15.00	105 00	
74 at 42.00	3,108 00	
228 at 48.00	10,944 00	
24 at 24.00	576 00	
8 at 54.00	432 00	
15 at 60.00	900 00	
6 at 30.00	180 00	
149 at 2.00, municipal	298 00	
20 at 2.00, new sets	40 00	
30 free.		
(7,075) increased capacity and balance of fees	284 00	
		52,430 00

MOTORCYCLES—1929 FEES

53 at $2.00	$106 00	

1930 FEES

3,547 at $3.00	$10,641 00	
185 at 1.50	277 50	
130 at 2.00, municipal	260 00	
71 at 1.00, new sets	71 00	
22 free.		
(4,008)		11,355 50

"M" DEALERS—1929 FEES

3 at $25.00	$75 00	

1930 FEES

1,860 at $20.00	37,200 00	
2 at 10.00	20 00	
22 at 2.00, new sets	44 00	
(1,887)		37,339 00

"M.T." DEALERS

Pneumatic Tires

12 at $20.00	$240 00	
1 at 10.00	10 00	
45 at 24.00	1,080 00	
1 at 12.00	12 00	
6 at 40.00	240 00	
11 at 54.00	594 00	
21 at 63.00	1,323 00	
11 at 72 00	792 00	
8 at 90.00	720 00	
8 at 100.00	800 00	

Solid Tires

1 at $80.00	$80 00	
7 at 2.00, new sets	14 00	
(132)		5,905 00

"M.C." DEALERS

22 at $6.00	$132 00	
(22)		132 00

CHAUFFEURS

23,856 at $2.00, originals	$47,712 00	
5,953 at 1.00, originals	5,953 00	
110,391 at 1.00, renewals	110,391 00	
134 free.		
(140,334) previous year's fees	881 00	
		164,937 00

OPERATORS

70,148 at $1.00, original operator	$70,148 00	
429,887 at 1.00, renewal operator	429,887 00	
935 at 1.00, instruction (1929)	935 00	
31,349 at .50, instruction (1930)	15,674 50	
473 at 1.00, original "M.C." operator	473 00	
588 at 1.00, renewal, "M.C." operator	588 00	
506 free operators.		
2 free "M.C." operators.		
Operators previous year's fees	3,162 00	
"M.C." operator's previous year's fees	16 00	
(533,888)		$520,883 50

GARAGES

Class "A"

2,254 at $10.00	$22,540 00	
49 at 5.00	245 00	

Class "B"

1,017 at $5.00	$5,085 00	
28 at 2.50	70 00	
(3,348) previous year's fees	10 00	
		27,950 00
Public vehicles		155,412 64
Public commercial vehicles		6,959 68

In Transits

22,821 at $0.50	$11,410 50	
(22,821)		11,410 50

Duplicate Cards

3,748 at $0.50, passenger	$1,874 00	
335 at .50, commercial	167 50	
57 at .50, motorcycle	28 50	
26 at .50, two purpose	13 00	
3 at .50, trailers	1 50	
714 at .50, passenger transfers	357 00	
36 at .50, commercial transfers	18 00	
1 at .50, "M" dealers	50	
312 at .50, chauffeur original	156 00	
1,839 at .50, chauffeur renewal	919 50	
494 at .50, operator original	247 00	
3,251 at .50, operator renewal	1,625 50	
2 at .50, "M.C." operator original	1 00	
9 at .50, "M.C." operator renewal	4 50	
1 at .50, instruction	50	
9,985 at .50 (1929)	4,992 50	
(20,813)		10,406 50

Transfers

75,036 at $2.00, passenger	$150,072 00	
4,656 at 2.00, commercial	9,312 00	
684 at 1.00, motorcycle	684 00	
73 at 2.00, trailers	146 00	
293 at 2.00, two purpose	586 00	
18 at 2.00, garage	36 00	
10 at 2.00, "M" Dealers	20 00	
2 at 2.00, "M.T." Dealers	4 00	
(80,772)		$160,860 00

Certificates and Searches

99 at $0.25	$24 75	
27 at .50	13 50	
7 at .75	5 25	
5 at 1.00	5 00	
2 at 1.25	2 50	
2 at 1.50	3 00	
1 at 2.00	2 00	
(143)		$56 00
Lists		49 08
Fines		100,569 67
Postage		18 15
Miscellaneous		96 50
Testing headlights		155 00
Examination fees		17,875 00

Commissions Deducted by Agents

436,903 at $0.25	$109,225 75	
48,906 at .15	7,335 90	
583,484 at .10	58,348 40	
13,926 at .05	696 30	
		175,606 35
Express charges paid by agents		196 61
Rent for typewriters		1,062 00

GARAGES—Continued

Cheques charged back by Provincial Treasurer as N.S.F.:			
J. E. Cober	$10 00		
C. W. Robinson	10 00		
Alex. Villemaire	20 00		
One dollar American bill raised to $10.00	9 00		
		49 00	
Refunds deducted by Treasurer		,049 00	
Due from bonding company			
D. Fletcher	$426 40		
A. S. Crowe	913 75		
F. W. Ernst	83 45		
		1,423 60	
1929-1930 balance due from agents		63 70	
Deposited with Treasury as shown by Treasurer's statement		5,547,254 58	
			$5,729,704 84
1929 balances and interest			254 22
		$5,729,450 62	$5,729,450 62

Statement of Revenue Collected During the Fiscal Years 1904-1930, Inclusive

Year	Receipts
1904	$1,282 00
1905	3,096 65
1906	5,523 15
1907	8,098 50
1908	10,007 75
1909	12,418 75
1910	24,394 01
1911	50,831 22
1912	73,255 96
1913	105,558 95
1914	149,210 45
1915	334,759 78
1916	639,987 09
1917	930,753 00
1918	1,214,093 87
1919	1,580,105 61
1920	1,990,833 38
1921	2,945,360 36
1922	3,477,430 13
1923	4,296,009 32
1924	4,785,235 13
1925	5,638,993 38
1926	6,415,713 05
1927	5,964,863 63
1928	6,470,151 79
1929	7,848,448 58
1930	5,547,254 58

Revenue collected for year 1904-1916, inclusive under Provincial Secretary's Department.

SUSPENSIONS MADE FROM SEPTEMBER 1st, 1930 TO DECEMBER 31st, 1930 REQUIRING THE FILING OF FINANCIAL RESPONSIBILITY

Section		Number of Convictions
3	Making false statement on application	8
16	Driving without holding chauffeur's license	15
20	Misconduct	24
23	Speeding	7
24	Reckless driving	339
25	Racing	6
40	Failing to return to scene of accident	59
45	Driving while intoxicated	247
66	Operating without holding operator's license	320
284	Criminal negligence	11
		1,036

Number of compulsory filings made from September 1st, 1930 to December 31st, 1931	1,669
Number of voluntary filings made during same period	822

PROVINCE OF ONTARIO

MOTOR VEHICLES BRANCH

Annual Summary of Motor Vehicle Accidents in Ontario, Period September 1st to December 31st, 1930

1 TYPE OF ACCIDENT AND NUMBER PERSONS KILLED OR INJURED	Total accidents	Fatal	Personal injury	Property damage only	NUMBER OF PERSONS KILLED									NUMBER OF PERSONS INJURED								
					Previous years total all ages	Total all ages	0-4	5-14	15-54	55 and over	Not stated	M.	F.	Previous years total all ages	Total all ages	0-4	5-14	15-54	55 and over	Not stated	M.	F.
1. Collision with pedestrian	790	82	708			82	8	26	17	28	3	57	25		756	66	226	248	104	112	448	308
2. Collision with other automobile	1,333	30	572	731		34			21	6	7	23	11		975	18	47	585	66	259	534	441
3. Collision with horse-drawn vehicle	66	2	40	24		2			2			2			52		2	27	10	13	44	8
4. Collision with railroad train	30	10	12	8		17	1	1	9	5	1	14	3		25		1	15	1	8	18	7
5. Collision with street car	57	5	34	18		5			4	1		4	1		50		2	39	4	5	31	19
6. Collision with other vehicles																						
7. Collision with fixed object	121	17	63	41		18	1		11	3	3	12	6		116	1	2	86	5	22	76	40
8. Collision with bicycle	117	9	108			9		1	4	4		7	2		109		25	54	7	23	105	4
9. Collision with motorcycle	58	4	48	6		5		1	4			4	1		60		3	42	4	11	54	6
10. Non-collision accident	182	36	99	47		44	1	1	32	4	6	34	10		204	1	9	114	21	59	130	74
11. Miscellaneous	22		3	19											6			3	1	2	5	1
Grand Total	2,776	195	1,687	894		216	11	30	104	51	20	157	59		2,353	86	317	1,213	223	514	1,445	908

PROVINCE OF ONTARIO

MOTOR VEHICLES BRANCH

Annual Summary of Motor Vehicle Accidents in Ontario, Period September 1st to December 31st, 1930

2 HOUR OF OCCURRENCE	NUMBER OF ACCIDENTS Total	Fatal	Personal injury	Property damage only
12 to 1 A.M.	68	4	33	31
1 to 6 A.M.	143	11	67	65
6 to 7 A.M.	19	2	12	5
7 to 8 A.M.	52	3	26	23
8 to 9 A.M.	77	5	47	25
9 to 10 A.M.	73	7	35	31
10 to 11 A.M.	103	8	68	27
11 to 12 A.M.	111	11	63	37
12 to 1 P.M.	146	6	80	60
1 to 2 P.M.	148	6	85	57
2 to 3 P.M.	131	7	80	44
3 to 4 P.M.	150	10	97	43
4 to 5 P.M.	190	14	120	56
5 to 6 P.M.	308	18	210	80
6 to 7 P.M.	211	15	131	65
7 to 8 P.M.	229	17	155	57
8 to 9 P.M.	193	17	119	57
9 to 10 P.M.	153	13	88	52
10 to 11 P.M.	131	10	84	37
11 to 12 P.M.	129	11	78	40
Not stated	11	......	9	2
Totals	2,776	195	1,687	894

4 DESCRIPTION OF DRIVERS INVOLVED IN AUTOMOBILE ACCIDENTS	NUMBER OF DRIVERS Total	In fatal accidents	In personal injury accidents	In property damage accidents
Driver's Sex				
1. Male	4,016	214	2,237	1,565
2. Female	213	13	124	76
Total	4,229	227	2,361	1,641
3. Under 18 years	87	7	55	25
4. 18 to 24 years	830	62	500	268
5. 25 to 54 years	2,001	109	1,226	666
6. 55 and over	197	16	120	61
7. Not stated	1,114	33	460	621
Total	4,229	227	2,361	1,641
Driving Experience				
8. Less than 3 months	20	3	12	5
9. 3 to 6 months	45	......	33	12
10. 6 to 12 months	49	1	34	14
11. 1 year or more	2,740	129	1,660	951
12. Not stated	1,375	94	622	659
Total number of drivers	4,229	227	2,361	1,641
Condition of Driver				
13. Intoxicated	46	13	21	12
14. Physical defect	17	2	9	6
15. Extreme fatigue	31	1	15	15
16. Normal	4,135	211	2,316	1,608
Totals	4,229	227	2,361	1,641

6 THE PEDESTRIAN	NUMBER OF ACCIDENTS INVOLVING PEDESTRIAN Total	Fatal	Non-fatal
Crossing at street intersection			
1. " " (a) with signal	16	2	14
2. " " (b) against signal	33	......	33
3. " " (c) no signal	146	10	136
3. " " (d) diagonally	27	3	24
5. Crossing between street intersections	182	12	170
6. Waiting for, or getting on or off street car	21	1	20
7. Standing in safety zone	......	......	......
8. Getting on or off other vehicle	7	1	6
9. Children playing in street	111	11	100
10. At work in roadway	22	3	19
11. Riding or hitching on vehicle	17	7	10
12 Walking on rural highway	34	9	25
13. Coming from behind parked vehicle or object	119	8	111
14. Crossing highway	42	13	29
15. On sidewalk	13	2	11
Condition of Pedestrian			
15. Was intoxicated	15	3	12
16. Had physical defect	31	10	21
17. Was confused by traffic	117	5	112
18. View obstructed	130	5	125
19. Not stated	497	59	438
Totals	790	82	708

PROVINCE OF ONTARIO

MOTOR VEHICLES BRANCH

Annual Summary of Motor Vehicle Accidents in Ontario, Period September 1st to December 31st, 1930

3 DAY OF OCCURRENCE	NUMBER OF ACCIDENTS Total	Fatal	Personal injury	Property damage only
1. Sunday	372	25	243	104
2. Monday	374	25	226	123
3. Tuesday	341	23	206	112
4. Wednesday	370	30	230	110
5. Thursday	377	28	228	121
6. Friday	399	29	237	133
7. Saturday	543	35	317	191
8. Not stated	......	......	......	......
Totals	2,776	195	1,687	894

5 NATURE OF INJURIES	NUMBER OF PERSONS Killed	Injured
1. Fractured skull	89	45
2. Fractured spine	8	5
3. Other fracture	14	326
4. Concussion of the brain	6	41
5. Severe general shock with bruises and cuts	17	1,212
6. Slight shock and shakeup	......	82
7. Internal injuries	36	46
8. Other injuries (sprains, dislocations, wrenches, etc.)	3	167
9. Cuts by glass (only)	......	331
10. Not stated	43	98
Totals	216	2,353

7 ROAD LOCATION	NUMBER OF ACCIDENTS Total	Fatal	Personal injury	Property damage only
1. Street intersection	986	27	583	376
2. Between street intersections	687	36	493	158
4. Rural intersections	92	11	52	29
4. Straight road	655	64	369	222
5. Private driveway	32	6	13	13
6. Curve	134	22	78	34
7. Hill	113	8	72	33
8. Railroad crossing	30	10	12	8
9. Bridge	37	7	10	20
10. Not stated	10	4	5	1
Totals	2,776	195	1,687	894

PROVINCE OF ONTARIO

MOTOR VEHICLES BRANCH

Annual Summary of Motor Vehicle Accidents in Ontario, Period September 1st to December 31st, 1930

8 ROAD SURFACE	NUMBER OF ACCIDENTS			
	Total	Fatal	Personal injury	Property damage only
1. Dry surface	1,647	127	1,047	473
2. Wet surface	552	21	330	201
3. Muddy surface	2	....	1	1
4. Snowy surface	181	13	95	73
5. Icy surface	340	14	187	139
6. Not stated	54	20	27	7
Totals	2,776	195	1,687	894

9 ROAD CONDITIONS	NUMBER OF ACCIDENTS			
	Total	Fatal	Personal injury	Property damage only
1. In good condition	2,738	188	1,669	881
2. Defect in roadway	13	4	4	5
3. Road under repair	22	3	12	7
4. Obstruction not lighted	3	....	2	1
Totals	2,776	195	1,687	894

10 LIGHT CONDITIONS	NUMBER OF ACCIDENTS			
	Total	Fatal	Personal injury	Property damage only
1. Daylight	1,314	84	794	436
2. Dusk	272	20	176	76
3. Night	1,181	91	710	380
4. Not stated	9	....	7	2
Totals	2,776	195	1,687	894

11 WEATHER CONDITIONS	NUMBER OF ACCIDENTS			
	Total	Fatal	Personal injury	Property damage only
1. Clear	1,687	122	1,035	530
2. Cloudy	417	22	266	129
3. Fog	115	10	60	45
4. Rain	316	8	210	98
5. Snow or sleet	159	11	75	73
6. Not stated	82	22	41	19
Totals	2,776	195	1,687	894

12 AT RAILROAD CROSSING	NUMBER OF ACCIDENTS			
	Total	Fatal	Personal injury	Property damage only
1. Guarded crossing, man on duty or gates	3	1	1	1
2. Guarded crossing, automatic signal	5	2	1	2
3. Unguarded crossing	21	6	10	5
4. Not stated	1	1	....	....
Totals	30	10	12	8

13 TYPES OF VEHICLES INVOLVED IN ACCIDENT	NUMBER OF VEHICLES INVOLVED			
	Total	Fatal	Personal injury	Property damage only
1. Passenger car	3,460	176	1,959	1,325
2. Commercial vehicle	650	44	310	296
3. Taxicab	87	3	39	45
4. Bus	23	1	15	7
5. Motorcycle	71	7	58	6
6. Trailer	17	2	5	10
7. All others	1	....	....	1
8. Not stated	17	3	11	3
Totals	4,326	236	2,397	1,693

PROVINCE OF ONTARIO

MOTOR VEHICLES BRANCH

Annual Summary of Motor Vehicle Accidents in Ontario, Period September 1st to December 31st, 1930

14 CONDITION OF VEHICLES INVOLVED IN ACCIDENTS	NUMBER OF VEHICLES INVOLVED			
	Total	Fatal	Personal injury	Property damage only
1. In apparent good condition	3,597	161	1,990	1,446
2. Brakes defective	86	14	48	24
3. Steering mechanism defective	22	3	13	6
4. Glaring headlights	22	....	15	7
5. One or both headlights out	27	2	14	11
6. Tail-light out or obscured	34	2	16	16
7. No chain (wet and slippery road)	51	1	24	26
8. Other defects in equipment	29	6	10	13
9. Puncture or blowout	30	6	12	12
10. Not stated	428	41	255	132
Totals	4,326	236	2,397	1,693

15 TYPE OF BRAKES	NUMBER OF VEHICLES			
	Total	Fatal	Personal injury	Property damage only
1. Two-wheel	1,312	73	756	483
2. Four-wheel	2,733	128	1,493	1,112
3. Not stated	281	35	148	98
Totals	4,326	236	2,397	1,693

16 TYPE OF TIRES	NUMBER OF VEHICLES			
	Total	Fatal	Personal injury	Property damage only
1. Pneumatic (high pressure)	748	48	392	308
2. Semi-balloon or balloon	3,205	146	1,813	1,246
3. Solid rubber	22	3	10	9
4. Not stated	351	39	182	130
Totals	4,326	236	2,397	1,693

17 VIOLATIONS THE MOTORIST	NUMBER OF VIOLATIONS			
	Total	Fatal	Personal injury	Property damage only
1. Speed too fast for road and traffic conditions	363	32	189	142
2. On wrong side of road	388	26	205	157
3. Did not have right-of-way	214	9	100	105
4. Cutting in	79	6	42	31
5. Passing standing street car	15	....	13	2
6. Passing on curve or hill	30	2	16	12
7. Passing on wrong side	5	....	2	3
8. Failed to signal	82	1	47	34
9. Car ran away—no driver	4	1	2	1
10. Drove off roadway	202	32	99	71
Totals	1,382	109	715	558
Direction of Travel				
11. Going straight	3,026	192	1,698	1,136
12. Turning right	148	7	91	50
13. Turning left	412	11	229	172
14. Backing	38	9	17	12
15. Car parked or standing still	232	5	105	122
16. Slowing down or stopping	108	2	55	51
17. Skidding	362	10	202	150
Totals	4,326	236	2,397	1,693

J. P. BICKELL,
Registrar of Motor Vehicles

REPORT OF MOTOR VEHICLES BRANCH, DEPARTMENT OF HIGHWAYS, ONTARIO, 1931

To the Honourable Leopold Macaulay,
Minister of Highways.

Sir:

I have the honour to submit herewith the Annual Report of the Motor Vehicles Branch for the year 1931.

A detailed statement of the motor vehicle registrations for the calendar year 1931, together with a statement showing the revenue derived from all sources, which statement has been duly verified by the Provincial Auditor, is attached.

Registrations

The total registrations of all types of motor vehicles for the year 1931 amounted to 562,216 as compared with 562,506 in 1930. This is a decrease of .052 per cent., while during the three previous years an average annual increase of 9.13 per cent. had been shown. This decrease is noteworthy in that it is the first time during the twenty-nine years since motor vehicles were first registered, that a decrease in the number of passenger cars and commercial motor vehicles is shown. The registration of trailers, however, increased from 7,111 to 9,996, so that the total of vehicles registered shows an increase of 2,885.

Drivers' Licenses

Chauffeurs' licenses issued numbered 157,059, operators' licenses, 508,121 and motorcycle operators' licenses, 1,086, making a total for all drivers' licenses of 666,266 or 25,314 more than 1930. In addition 38,090 instruction permits were issued in 1931 and 32,742 in 1930.

Revenue

The net revenue for the Branch for the fiscal year amounted to $5,610,442.80, an increase of $63,000 over the year 1930.

Highway Safety

The Department continued its activities in an effort to improve driving conditions on our highways and during the year $49,994.90 was expended in newspaper advertising and other forms of publicity.

Eastern Conference of Motor Vehicle Administrators

The Registrar of Motor Vehicles attended meetings of the Eastern Conference of Motor Vehicle Administrators held in Trenton, New Jersey, in May and in New York City in October. At the October meeting he was elected Vice-President of the Conference.

Public Vehicles

During 1931, 629 busses were licensed to be operated as public vehicles. A reduction in the fees, per scheduled passenger mile, from 1/10 to 1/20 of a cent on Provincial Highways and from 1/15 to 1/30 of a cent on County Roads, which came into effect in November, 1930, was somewhat offset by increased mileage, and revenue for the year amounted to $99,322.07. The scheduled daily bus trips over King's Highways and County Roads reached a record total of 23,904 miles, though the number of operators had been reduced from ninety-five to ninety by mergers and other causes.

Public Commercial Vehicles

An amendment to the Regulations respecting the licensing of public commercial vehicles changed the registration date from January 1st to April 1st, during this year. A change in the Regulations also increased the number of registration classes from three to five, creating two new groups which were designated as Class "C" and Class "D." One thousand, two hundred and thirty-nine (1,239) Class "C" or Private Carrier Licenses were issued, permitting the transportation of property belonging to one person only on one trip. Holders of Class "D" permits were called Contract Carriers and were permitted to carry goods under contract only and were not allowed to accept casual business. In this class, 269 licenses were issued.

In the original classifications of Common Carriers, 1,195 Class "A" licenses and 120 Class "B" licenses were granted, while vehicles to the number of 850 were licensed as Common Carriers for the conveyance of farm and dairy products and live stock exclusively.

The total of 3,673 Public Commercial Vehicle licenses issued, constituted a new high record.

Financial Responsibility Division and Accident Reporting Division

These two divisions were created to administer the operation of Parts XIII and XIV of The Highway Traffic Act, which became effective on September 1st, 1930. The annual reports covering the activities of the first full calendar year of operation are attached hereto, and show the details of 3,757 permit suspensions in which proof of financial responsibility was required, and the circumstances of 9,241 accident cases in which 571 lives were lost.

Respectfully submitted,

J. P. BICKELL,
Registrar of Motor Vehicles.

MOTOR VEHICLES REGISTERED, 1931

Automobile permits	489,713
Commercial permits	64,256
Convertible permits	4,177
Trailer permits	9,996
Motorcycle permits	4,070
Automobile dealers' permits	1,458
Commercial dealers' permits	122
Motorcycle dealers' permits	24
Operators	508,121
Instruction permits	38,090
Motorcycle operators	1,086
Chauffeurs	157,059
Garages	3,179
In transits	16,504
Transfers	71,711
Public vehicles	629
Public commercial vehicles	3,900

PASSENGER CARS REGISTERED, 1931

Counties		Cities		Total
Algoma	2,784	Sault Ste. Marie	3,151	5,935
Brant	3,433	Brantford	4,358	7,791
Bruce	6,628			6,628
Carleton	4,591	Ottawa	14,691	19,282
Dufferin	2,829			2,829
Dundas	2,672			2,672
Durham	3,861			3,861
Elgin	5,138	St. Thomas	3,326	8,464
Essex	14,979	Windsor	11,262	26,241
Frontenac	2,978	Kingston	3,445	6,423
Glengarry	1,989			1,989
Grenville	2,508			2,508
Grey	7,027	Owen Sound	1,911	8,938
Haldimand	4,540			4,540
Haliburton	299			299
Halton	4,610			4,610
Hastings	7,348	Belleville	2,487	9,835
Huron	8,236			8,236
Kenora	1,167			1,167
Kent	9,007	Chatham	3,068	12,075
Lambton	7,487	Sarnia	3,112	10,599
Lanark	4,619			4,619
Leeds	5,578			5,578
Lennox and Addington	2,801			2,801
Lincoln	4,359	St. Catharines	4,103	8,462
Manitoulin	1,659			1,659
Middlesex	9,415	London	11,913	21,328
Muskoka	2,499			2,499
Nipissing	2,566	North Bay	1,683	4,249
Norfolk	5,209			5,209
Northumberland	4,773			4,773
Ontario	5,565	Oshawa	4,139	9,704
Oxford	7,325	Woodstock	2,769	10,094
Parry Sound	2,669			2,669
Peel	5,027			5,027
Perth	5,823	Stratford	2,719	8,542
Peterborough	3,409	Peterborough	3,351	6,760

PASSENGER CARS REGISTERED, 1931—Continued

Counties		Cities		Total
Prescott	2,012			2,012
Prince Edward	3,071			3,071
Rainy River	1,426			1,426
Renfrew	5,205			5,205
Russell	1,757			1,757
Simcoe	11,948			11,948
Stormont	3,438			3,438
Sudbury	158	Sudbury	3,914	4,072
Thunder Bay	1,125	Fort William	2,585	
		Port Arthur	2,317	6,027
Temiskaming	5,356			5,356
Victoria	4,908			4,908
Waterloo	6,887	Galt	2,193	
		Kitchener	4,455	13,535
Welland	7,729	Niagara Falls	4,122	
		Welland	2,352	14,203
Wellington	6,116	Guelph	3,250	9,366
Wentworth	5,531	Hamilton	20,846	26,377
York	17,190	Toronto	100,281	117,471
Foreign	646			646
	261,910		227,803	489,713

Horse-power

Of 25 horse-power or less	370,436	
More than 25 horse-power and up to 35 horse-power	113,311	
More than 35 horse-power	5,307	
Electric	11	
Steam	36	
Free	612	
		489,713

Registrations

Originals	39,258	
Renewals	450,455	
		489,713

COMMERCIAL CARS REGISTERED, 1931

Counties		Cities		Total
Algoma	420	Sault Ste. Marie	366	786
Brant	409	Brantford	688	1,097
Bruce	507			507
Carleton	563	Ottawa	1,850	2,413
Dufferin	226			226
Dundas	327			327
Durham	366			366
Elgin	529	St. Thomas	352	881
Essex	1,996	Windsor	1,707	3,703
Frontenac	304	Kingston	537	841
Glengarry	173			173
Grenville	277			277
Grey	402	Owen Sound	204	606
Haldimand	448			448
Haliburton	55			55
Halton	671			671
Hastings	852	Belleville	345	1,197
Huron	629			629
Kenora	259			259
Kent	918	Chatham	498	1,416
Lambton	571	Sarnia	296	867
Lanark	403			403
Leeds	609			609
Lennox and Addington	282			282
Lincoln	981	St. Catharines	737	1,718
Manitoulin	157			157

COMMERCIAL CARS REGISTERED, 1931—Continued

Counties		Cities		Total
Middlesex	858	London	1,712	2,570
Muskoka	312		.....	312
Nipissing	344	North Bay	269	613
Norfolk	759		.....	759
Northumberland	650		.....	650
Ontario	577	Oshawa	411	988
Oxford	947	Woodstock	280	1,227
Parry Sound	305		.....	305
Peel	876		.....	876
Perth	584	Stratford	272	856
Peterborough	289	Peterborough	449	738
Prescott	202		.....	202
Prince Edward	428		.....	428
Rainy River	343		.....	343
Renfrew	494		.....	494
Russell	332		.....	332
Simcoe	1,200		.....	1,200
Stormont	425		.....	425
Sudbury	97	Sudbury	388	485
Thunder Bay	243	Fort William	435	......
		Port Arthur	321	999
Temiskaming	564		.....	564
Victoria	929		.....	929
Waterloo	730	Galt	254	.....
		Kitchener	596	1,580
Welland	1,174	Niagara Falls	516	.....
		Welland	324	2,014
Wellington	510	Guelph	423	933
Wentworth	1,255	Hamilton	3,207	4,462
York	2,785	Toronto	14,844	17,629
Foreign	429		.....	429
	31,975		32,281	64,256

CONVERTIBLE VEHICLES REGISTERED, 1931

Counties		Cities		Total
Algoma	39	Sault Ste. Marie	9	48
Brant	59	Brantford	48	107
Bruce	51		.....	51
Carleton	98	Ottawa	46	144
Dufferin	34		.....	34
Dundas	22		.....	22
Durham	74		.....	74
Elgin	81	St. Thomas	12	93
Essex	91	Windsor	56	147
Frontenac	141	Kingston	26	167
Glengarry	21		.....	21
Grenville	27		.....	27
Grey	73	Owen Sound	16	89
Haldimand	21		.....	21
Haliburton	6		.....	6
Halton	73		.....	73
Hastings	58	Belleville	24	82
Huron	57		.....	57
Kenora	8		.....	8
Kent	80	Chatham	17	97
Lambton	65	Sarnia	7	72
Lanark	64		.....	64
Leeds	77		.....	77
Lennox and Addington	23		.....	23
Lincoln	101	St. Catharines	20	121
Manitoulin	3		.....	3
Middlesex	137	London	56	193
Muskoka	32		.....	32
Nipissing	27	North Bay	8	35
Norfolk	72		.....	72
Northumberland	52		.....	52

CONVERTIBLE VEHICLES REGISTERED, 1931 —Continued

Counties		Cities		Total
Ontario	17	Oshawa	19	36
Oxford	197	Woodstock	16	213
Parry Sound	25			25
Peel	52			52
Perth	52	Stratford	38	90
Peterborough	69	Peterborough	26	95
Prescott	29			29
Prince Edward	14			14
Rainy River	13			13
Renfrew	34			34
Russell	19			19
Simcoe	185			185
Stormont	43			43
Sudbury	2	Sudbury	12	14
Thunder Bay	7	Fort William	1	
		Port Arthur	7	15
Temiskaming	46			46
Victoria	67			67
Waterloo	74	Galt	10	
		Kitchener	18	102
Welland	165	Niagara Falls	20	
		Welland	2	187
Wellington	61	Guelph	43	104
Wentworth	61	Hamilton	79	140
York	204	Toronto	336	540
Foreign	2			2
	3,205		972	4,177

Tires

Pneumatic	60,639	
Solid	1,127	
Municipal	1,878	
Ontario Government Dominion Government	612	
		64,256

Gross Weights—Pneumatic Tires

Less than two tons	20,609	
Of two tons and up to three tons	18,637	
More than three tons and up to four tons	10,764	
More than four tons and up to five tons	3,854	
More than five tons and up to six tons	1,697	
More than six tons and up to seven tons	1,276	
More than seven tons and up to eight tons	1,596	
More than eight tons and up to nine tons	711	
More than nine tons and up to ten tons	1,460	
More than ten tons	35	
		60,639

Gross Weights—Solid Tires

Less than two tons	81	
Of two tons and up to three tons	156	
More than three tons and up to four tons	59	
More than four tons and up to five tons	104	
More than five tons and up to six tons	121	
More than six tons and up to seven tons	124	
More than seven tons and up to eight tons	282	
More than eight tons and up to nine tons	72	
More than nine tons and up to ten tons	60	
More than ten tons and up to eleven tons	5	
More than eleven tons and up to twelve tons	63	
		1,127
Municipal	1,878	
Ontario Government Dominion Government	612	
		2,490
		64,256

CONVERTIBLE VEHICLES REGISTERED

Convertible vehicles	4,177	
Less than two tons	4,148	
Of two tons and up to three tons	6	
Municipal	7	
Ontario Government Dominion Government	16	
		4,177

TRAILERS REGISTERED, 1931

Counties		Cities		Total
Algoma	27	Sault Ste. Marie	60	87
Brant	110	Brantford	157	267
Bruce	194		.....	194
Carleton	107	Ottawa	161	268
Dufferin	54		.....	54
Dundas	42		.....	42
Durham	76		.....	76
Elgin	215	St. Thomas	41	256
Essex	418	Windsor	182	600
Frontenac	21	Kingston	56	77
Glengarry	12		.....	12
Grenville	29		.....	29
Grey	112	Owen Sound	39	151
Haldimand	104		.....	104
Haliburton	6		.....	6
Halton	69		.....	69
Hastings	133	Belleville	70	203
Huron	369		.....	369
Kenora	8		.....	8
Kent	261	Chatham	69	330
Lambton	359	Sarnia	49	408
Lanark	92		.....	92
Leeds	66		.....	66
Lennox and Addington	57		.....	57
Lincoln	49	St. Catharines	76	125
Manitoulin	....		.....	.....
Middlesex	346	London	186	532
Muskoka	37		.....	37
Nipissing	18	North Bay	25	43
Norfolk	187		.....	187
Northumberland	99		.....	99
Ontario	130	Oshawa	80	210
Oxford	288	Woodstock	31	319
Parry Sound	17		.....	17
Peel	81		.....	81
Perth	227	Stratford	52	279
Peterborough	51	Peterborough	48	99
Prescott	20		.....	20
Prince Edward	92		.....	92
Rainy River	86		.....	86
Renfrew	113		.....	113
Russell	26		.....	26
Simcoe	218		.....	218
Stormont	38		.....	38
Sudbury	5	Sudbury	24	29
Thunder Bay	4	Fort William	9	.....
		Port Arthur	19	32
Temiskaming	64		.....	64
Victoria	95		.....	95
Waterloo	105	Galt	21	.....
		Kitchener	83	210
Welland	85	Niagara Falls	47	
		Welland	38	170
Wellington	189	Guelph	40	229
Wentworth	68	Hamilton	378	446
York	267	Toronto	1,902	2,169
Foreign	106		.....	106
	6,053		3,943	9,996

Trailer Gross Weights

One ton or less	7,627
More than one ton and up to two tons	736
More than two tons and up to three tons	202
More than three tons and up to four tons	154
More than four tons and up to five tons	279
More than five tons and up to six tons	207
More than six tons and up to seven tons	69
More than seven tons and up to eight tons	349
More than eight tons and up to nine tons	12
More than nine tons and up to ten tons	37
More than ten tons	1
Municipal	280
Free	43
	9,996

AUTOMOBILE DEALERS REGISTERED, 1931

Counties		Cities		Total
Algoma	2	Sault Ste. Marie	12	14
Brant	3	Brantford	18	21
Bruce	23		...	23
Carleton	13	Ottawa	90	103
Dufferin	3		...	3
Dundas	9		...	9
Durham	9		...	9
Elgin	7	St. Thomas	8	15
Essex	17	Windsor	53	70
Frontenac	3	Kingston	19	22
Glengarry	5		...	5
Grenville	12		...	12
Grey	17	Owen Sound	8	25
Haldimand	14		...	14
Haliburton	1		...	1
Halton	10		...	10
Hastings	20	Belleville	18	38
Huron	12		...	12
Kenora	5		...	5
Kent	9	Chatham	14	23
Lambton	7	Sarnia	8	15
Lanark	16		...	16
Leeds	16		...	16
Lennox and Addington	9		...	9
Lincoln	8	St. Catharines	22	30
Manitoulin	3		...	3
Middlesex	8	London	38	46
Muskoka	4		...	4
Nipissing	5	North Bay	5	10
Norfolk	15		...	15
Northumberland	11		...	11
Ontario	16	Oshawa	45	61
Oxford	18	Woodstock	13	31
Parry Sound	9		...	9
Peel	10		...	10
Perth	14	Stratford	10	24
Peterborough	2	Peterborough	20	22
Prescott	8		...	8
Prince Edward	8		...	8
Rainy River	6		...	6
Renfrew	28		...	28
Russell	6		...	6
Simcoe	38		...	38
Stormont	25		...	25
Sudbury	3	Sudbury	16	19
Thunder Bay	2	Fort William	14	...
		Port Arthur	2	18
Temiskaming	32		...	32
Victoria	13		...	13
Waterloo	9	Galt	7	...
		Kitchener	26	42
Welland	12	Niagara Falls	12	...
		Welland	14	38

AUTOMOBILE DEALERS REGISTERED, 1931—Continued

Counties		Cities		Total
Wellington	10	Guelph	20	30
Wentworth	5	Hamilton	69	74
York	46	Toronto	261	307
Foreign	...		...	...
	616		842	1,458

COMMERCIAL DEALERS REGISTERED, 1931

Counties		Cities		Total
Algoma	...	Sault Ste. Marie	...	...
Brant	...	Brantford	1	1
Bruce	...		...	...
Carleton	...	Ottawa	5	5
Dufferin	...		...	...
Dundas	...		...	...
Durham	...		...	...
Elgin	...	St. Thomas	...	...
Essex	4	Windsor	4	8
Frontenac	...	Kingston	1	1
Glengarry	...		...	...
Grenville	...		...	...
Grey	...	Owen Sound	1	1
Haldimand	...		...	...
Haliburton	...		...	...
Halton	2		...	2
Hastings	...	Belleville	1	1
Huron	...		...	...
Kenora	...		...	...
Kent	...	Chatham	1	1
Lambton	...	Sarnia	...	...
Lanark	...		...	...
Leeds	...		...	...
Lennox and Addington	...		...	...
Lincoln	...	St. Catharines	4	4
Manitoulin	...		...	...
Middlesex	...	London	8	8
Muskoka	...		...	...
Nipissing	...	North Bay	1	1
Norfolk	...		...	...
Northumberland	...		...	...
Ontario	...	Oshawa	...	...
Oxford	1	Woodstock	...	1
Parry Sound	...		...	...
Peel	...		...	...
Perth	...	Stratford	1	1
Peterborough	...	Peterborough	...	...
Prescott	...		...	...
Prince Edward	1		...	1
Rainy River	...		...	...
Renfrew	...		...	...
Russell	...		...	...
Simcoe	...		...	...
Stormont	...		...	...
Sudbury	...	Sudbury	...	...
Thunder Bay	...	Fort William	...	...
		Port Arthur	...	...
Temiskaming	...		...	...
Victoria	...		...	...
Waterloo	...	Galt	...	...
		Kitchener	3	3
Welland	1	Niagara Falls	...	...
		Welland	1	2
Wellington	...	Guelph	3	3
Wentworth	...	Hamilton	21	21
York	3	Toronto	54	57
Foreign	...		...	...
	12		110	122

MOTORCYCLES REGISTERED, 1931

Counties		Cities		Total
Algoma	15	Sault Ste. Marie	12	27
Brant	17	Brantford	39	56
Bruce	15		...	15
Carleton	35	Ottawa	211	246
Dufferin	8		...	8
Dundas	17		...	17
Durham	16		...	16
Elgin	15	St. Thomas	18	33
Essex	26	Windsor	62	88
Frontenac	8	Kingston	68	76
Glengarry	8		...	8
Grenville	5		...	5
Grey	8	Owen Sound	7	15
Haldimand	10		...	10
Haliburton	2		...	2
Halton	31		...	31
Hastings	26	Belleville	17	43
Huron	25		...	25
Kenora	9		...	9
Kent	25	Chatham	12	37
Lambton	9	Sarnia	9	18
Lanark	19		...	19
Leeds	20		...	20
Lennox and Addington	17		...	17
Lincoln	37	St. Catharines	28	65
Manitoulin	1		...	1
Middlesex	34	London	122	156
Muskoka	14		...	14
Nipissing	4	North Bay	6	10
Norfolk	36		...	36
Northumberland	13		...	13
Ontario	51	Oshawa	54	105
Oxford	26	Woodstock	21	47
Parry Sound	...		...	...
Peel	37		...	37
Perth	19	Stratford	38	57
Peterborough	9	Peterborough	29	38
Prescott	6		...	6
Prince Edward	12		...	12
Rainy River	9		...	9
Renfrew	14		...	14
Russell	26		...	26
Simcoe	52		...	52
Stormont	38		...	38
Sudbury	5	Sudbury	20	25
Thunder Bay	8	Fort William	9	...
	...	Port Arthur	12	29
Temiskaming	60		...	60
Victoria	15		...	15
Waterloo	57	Galt	26	...
		Kitchener	68	151
Welland	42	Niagara Falls	24	...
		Welland	2	68
Wellington	38	Guelph	23	61
Wentworth	47	Hamilton	290	337
York	208	Toronto	1,537	1,745
Foreign	2		...	2
	1,306		2,764	4,070

DRIVER'S LICENSES ISSUED, 1931

Classification of Driver's Licenses

Driver's Licenses by Sex

	Operators	Chauffeurs	Total	Per cent.
Male	418,292	152,492	570,784	85.8
Female	89,829	4,567	94,396	14.2
	508,121	157,059	665,180	

Driver's Licenses by Class

Operators	508,121
Instruction permits	38,090
Motorcycle operators	1,086
Chauffeurs	157,059
Total	704,356

Driver's Licenses by Age

Age	Operators	Chauffeurs	Total	Per cent.
16-17	....	18,595	18,595	2.8
18-24	82,114	55,869	137,983	20.7
25-40	228,419	63,540	291,959	43.9
41-54	142,244	16,464	158,708	23.9
55-64	41,495	2,222	43,717	6.6
65 and over	13,849	369	14,218	2.1
	508,121	157,059	665,180	

NOTE.—Instruction permits and motorcycle operators' licenses are not included in above figures of sex and age.

MOTOR VEHICLE REGISTRATIONS FOR THE YEARS 1904-1931, INCLUSIVE

Year	Passenger cars	Owned in Ontario	Others	Commercial Vehicles	Two Purpose Vehicles	Motorcycles	Trailers	Public Vehicles		Public Commercial Vehicles	
								Oper.	Licenses	Oper.	Licenses
1904	535	....	....	....	....	....	....	....	....	....	....
1905	553	....	....	....	....	....	....	....	....	....	....
1906	1,176	517	659	....	....	....	....	....	....	....	....
1907	1,530	550	980	....	....	....	....	....	....	....	....
1908	1,754	589	1,165	....	....	....	....	....	....	....	....
1909	2,452	1,020	1,432	....	....	....	....	....	....	....	....
1910	4,230	1,977	2,253	....	....	....	....	....	....	....	....
1911	11,339	7,338	4,001	....	....	....	....	....	....	....	....
1912	16,268	11,939	4,327	....	....	1,754	....	....	....	....	....
1913	23,700	17,750	5,950	....	....	2,900	....	....	....	....	....
1914	31,724	25,308	6,416	....	....	3,633	....	....	....	....	....
1915	42,346	36,661	5,685	....	....	4,174	....	....	....	....	....
1916	51,589	50,587	1,002	2,786	....	4 287	....	....	....	....	....
1917	78,861	78,475	386	4,929	....	,180	....	....	....	....	....
1918	101.845	101,599	246	7,529	....	5,002	....	....	....	....	....
1919	127,860	127,512	348	11,428	....	5 516	....	....	....	....	....
1920	155,861	155,519	342	16,204	....	5,496	....	....	....	....	....
1921	181,978	181,686	292	19,554	....	4,989	327	....	....	....	....
1922	210.333	210,008	325	24,164	....	4,799	463	....	....	....	....
1923	245,815	245,435	380	28,612	....	4,325	591	....	....	....	....
1924	271,341	270,876	465	31.488	....	3,941	778	50	102	....	....
1925	303,736	303,216	520	34,690	....	3,748	1,058	91	216	....	....
1926	343,992	343,586	406	39,012	....	3,345	1,398	107	384	....	....
1927	386,903	386,311	592	43,442	....	3,159	1,962	103	480	....	....
1928	429,426	428,890	536	54,714	....	3,197	3,281	104	522	367	945
1929	473,222	472,634	588	55,218	8,226	3,541	4,903	80	587	285	1,118
1930	490,906	490,270	636	61,690	5,986	3,924	7,111	95	643	372	1,155
1931	489,713	489.067	646	64.256	4.177	4,070	9,996	90	629	1,977	3,900

CHAUFFEUR AND OPERATORS' LICENSES ISSUED FOR THE YEARS 1912-1931, INCLUSIVE

Year	Chauffeurs	Operators
1912	2,965	....
1913	3,514	....
1914	3,773	....
1915	5,322	....
1916	5,966	....
1917	8,214	....
1918	10,629	....
1919	15,400	....
1920	19,563	....
1921	21,808	....
1922	25,301	....
1923	27,033	....
1924	29,676	....
1925	33,740	....
1926	39,513	....
1927	64,916	444,472
1928	89,965	81,022
1929	111,861	473,213
1930	140,265	533,429
1931	157,059	508,121

MOTOR VEHICLES BRANCH, HIGHWAYS DEPARTMENT

Revenue for the Fiscal Year 1930-1931

		Gross	Deductions	Net
Automobile permits		$3,066,140 00	$104,092 05	$2,962,047 95
Commercial permits		1,444,427 00	12,982 05	1,431,444 95
Convertible permits		37,816 00	999 70	36,816 30
Trailer permits		66,093 50	41 00	66,052 50
Motorcycle permits		11,770 00	290 05	11,479 95
Automobile dealer permits		29,106 00	40 00	29,066 00
Commercial dealer permits		6,245 00	....	6,245 00
Motorcycle dealer permits		147 00	....	147 00
Chauffeurs		178,092 00	10,479 80	167,612 20
Operators		530,959 50	46,139 40	484,820 10
Garages		25,605 00	....	25,605 00
Public vehicles		99,322 07	....	99,322 07
Public commercial vehicles		23,748 49	4,082 50	19,665 99
In transits		8,514 00	676 20	7,837 80
Duplicate cards		8,804 00	....	8,804 00
Transfers		143,942 00	4,252 70	139,689 30
Certificates and searches		85 52	....	85 52
Lists		155 55	....	155 55
Fines		93,954 46	183 00	93,771 46
Postage		58 85	....	58 85
Miscellaneous		14 00	....	14 00
Testing Headlights		160 00	....	160 00
Examination fees		20,148 00	....	20,148 00
		$5,795,307 94	$184,258 45	$5,611,049 49
Express charges paid by agents	$184 28			
Rent of typewriters	1,900 00			
Due from agents	155 80			
			2,240 08	
Paid by bonding companies	$1,552 60	$5,795,307 94	$186,498 53	$5,608,809 41
1930 balances and interest paid	80 79			1,633 39
				$5,610,442 80

MOTOR VEHICLES BRANCH, HIGHWAYS DEPARTMENT

Revenue for Fiscal Year 1930-1931

Automobile permits	$3,066,140 00		
Commercial permits	1,444,427 00		
Convertible permits	37,816 00		
Trailer permits	66,093 50		
Motorcycle permits	11,770 00		
Automobile dealer permits	29,106 00		
Commercial dealer permits	6,245 00		
Motorcycle dealer permits	147 00		
Chauffeurs	178,092 00		
Operators	530,959 50		
Garages	25,605 00		
Public vehicles	99,322 07		
Public commercial vehicles	23,748 49		
In transits	8,514 00		
Duplicate cards	8,804 00		
Transfers	143,942 00		
Certificates and searches	85 52		
Lists	155 55		
Fines	93,954 46		
Postage	58 85		
Miscellaneous	14 00		
Testing headlights	160 00		
Examination fees	20,148 00		
		$5,795,307 94	
LESS:			
Commissions deducted by agents	$178,519 45		
Express charges paid by agents	184 28		
Rent for typewriters	1,900 00		
Cheques charged back by Provincial Treasurer	43 00		
Refunds deducted by Provincial Treasurer	5,696 00		
Due from agents, 1931	155 80		
		186,498 53	
			$5,608,809 41
Paid by bonding companies	$1,552 60		
1930 balance and interest	80 79		1,633 39
			$5,610,442 80

Itemized Statement of Receipts for Fiscal Year 1930-1931

Automobiles

364,692 at $5.00	$1,823,460 00	
6,456 at 2.50	16,140 00	
110,066 at 10.00	1,100,660 00	
3,382 at 5.00	16,910 00	
5,115 at 20.00	102,300 00	
232 at 10.00	2,320 00	
11 at 10.00, electric	110 00	
12 at 15.00, steam	180 00	
23 at 7.50	172 50	
1,929 at 2.00, new sets	3,858 00	
20 new sets. No fee.		
618 free.		
(492,556) Balance of fees	29 50	
		$3,066,140 00

COMMERCIALS

Pneumatic Tires

19,601 at $9.00	$176,409 00	
1,083 at 4.50	4,873 50	
17,680 at 15.00	265,200 00	
1,015 at 7.50	7,612 50	
10,224 at 24.00	245,376 00	
573 at 12.00	6,876 00	
3,558 at 40.00	142,320 00	
276 at 20.00	5,520 00	
1,606 at 54.00	86,724 00	
97 at 27.00	2,619 00	
1,218 at 63.00	76,734 00	
55 at 31.50	1,732 50	
1,547 at 72.00	111,384 00	
47 at 36.00	1,692 00	
724 at 90.00	65,160 00	
19 at 45.00	855 00	
1,416 at 100.00	141,600 00	
66 at 50.00	3,300 00	
14 at 144.00	2,016 00	
4 at 72.00	288 00	
1 at 156.00	156 00	
19 at 180.00	3,420 00	
3 at 90.00	270 00	

Solid Tires

75 at $14.00	$1,050 00	
4 at 7.00	28 00	
130 at 24.00	3,120 00	
32 at 12.00	384 00	
55 at 36.00	1,980 00	
6 at 18.00	108 00	
98 at 45.00	4,410 00	
6 at 22.50	135 00	
112 at 60.00	6,720 00	
6 at 30.00	180 00	
121 at 70.00	8,470 00	
4 at 35.00	140 00	
274 at 80.00	21,920 00	
9 at 40.00	360 00	
69 at 117.00	8,073 00	
4 at 58.50	234 00	
60 at 130.00	7,800 00	
1 at 65.00	65 00	
5 at 154.00	770 00	
60 at 168.00	10,080 00	
4 at 84.00	336 00	
1,868 at 2.00, municipal	3,736 00	
1,105 at 2.00, new sets	2,210 00	
2 new sets. No fee.		
612 free.		
(65,568) Increase capacity and balance of fees	9,980 50	
		$1,444,427 00

Two Purpose

3,999 at 9.00	$35,991 00	
157 at 4.50	706 50	
7 at 15.00	105 00	
7 at 2.00, municipal	14 00	
223 at 2.00, new sets	446 00	
1 new set. No fee.		
16 free.		
(4,410) Increase capacity and balance of fees	553 50	
		$37,816 00

Trailers

6,520 at $3.00	$19,560 00	
1,045 at 1.50	1,567 50	
637 at 6.00	3,822 00	
92 at 3.00	276 00	
182 at 15.00	2,730 00	
15 at 7.50	112 50	

146 at 20.00	2,920 00	
6 at 10.00	60 00	
266 at 25.00	6,650 00	
12 at 12.50	150 00	
195 at 30.00	5,850 00	
11 at 15.00	165 00	
57 at 42.00	2,394 00	
11 at 21.00	231 00	
323 at 48.00	15,504 00	
26 at 24.00	624 00	
9 at 54.00	486 00	
2 at 27.00	54 00	
33 at 60.00	1,980 00	
2 at 30.00	60 00	
1 at 120.00	120 00	
279 at 2.00, municipal	558 00	
14 at 2.00, new sets	28 00	
43 free.		
(9,927) Increase capacity and balance of fees	191 50	
		$66,093 50

Motorcycles

3,705 at $3.00	$11,115 00	
196 at 1.50	294 00	
156 at 2.00, municipal	312 00	
49 at 1.00, new sets	49 00	
25 free.		
(4,131)		$11,770 00

"M" DEALERS

1,450 at $20.00	$29,000 00	
8 at 10.00	80 00	
13 at 2.00, new sets	26 00	
(1,471)		$29,106 00

"M.T." DEALERS

Pneumatic Tires		
4 at $20.00	$80 00	
47 at 24.00	1,128 00	
1 at 12.00	12 00	
5 at 40.00	200 00	
12 at 54.00	648 00	
21 at 63.00	1,323 00	
16 at 72.00	1,152 00	
4 at 90.00	360 00	
10 at 100.00	1,000 00	
1 at 132.00	132 00	
Solid Tires		
2 at $60.00	$120 00	
5 at 2.00, new sets	10 00	
Increase capacity	80 00	
(128)		$6,245 00

"M.C." DEALERS

24 x $6.00	$144 00	
1 at 3.00	3 00	
(25)		$147 00

CHAUFFEURS

19,914 at $2.00, originals	$39,828 00	
5,163 at 1.00, original half fee	5,163 00	
132,013 1.00, renewals	132,013 00	
24 free.		
Previous year's fees	1,088 00	
(157,114)		$178,092 00

OPERATORS

60,275 at $1.00, originals	$60,275 00	
448,237 at 1.00, renewals	448,237 00	
37,555 at .50, instruction	18,777 50	
443 at 1.00, "M.C." operator, original	443 00	
647 at 1.00, "M.C." operator renewal	647 00	
1 free ("M.C." operator).		
Previous year's operators	2,567 00	
Previous year's "M.C." operators	13 00	
(547,158)		$530,959 50

GARAGES

1,977 at $10.00, Class "A"	$19,770 00	
28 at 5.00, Class "A"	140 00	
1,111 at 5.00, Class "B"	5,555 00	
54 at 2.50, Class "B"	135 00	
Previous year's fee	5 00	
(3,170)		$25,605 00

IN TRANSITS

17,028 at $0.50	$8,514 00	
		$8,514 00

DUPLICATE CARDS

1931 Fees		
3,247 at $0.50, passenger	$1,623 50	
353 at .50, commercial	176 50	
57 at .50, "M.C."	28 50	
11 at .50, two purpose	5 50	
9 at .50, trailers	4 50	
598 at 50, passenger transfers	299 00	
49 at .50, commercial transfers	24 50	
4 at .50, "M.C." transfers	2 00	
2 at .50, two purpose transfers	1 00	
3 at .50, "M" Dealer	1 50	
1 at .50, Class "A," Garage	50	
291 at .50, chauffeur original	145 50	
1,736 at .50, chauffeur renewals	868 00	
446 at .50, operator originals	223 00	
2,944 at .50, operator renewals	1,472 00	
6 at .50, "M.C." operator original	3 00	
6 at .50, "M.C." operator renewal	3 00	
(9,763)		
1929 Fees		
91 at $0.50	$45 50	
1930 Fees		
7,754 at $0.50	$3,877 00	
		$8,804 00

TRANSFERS

66,496 at $2.00, passenger	$132,992 00	
4,863 at 2.00, commercial	9,726 00	
690 at 1.00, "M.C."	690 00	
198 at 2.00, two purpose	396 00	
49 at 2.00, trailers	98 00	
9 at 2.00, Class "A," garage	18 00	
3 at 2.00, Class "B," garage	6 00	
8 at 2.00, "M" dealers	16 00	
(72,316)		$143,942 00

CERTIFICATES AND SEARCHES

80 at $0.25	$20 00	
6 at .30	1 80	
44 at .50	22 00	
13 at .75	9 75	
19 at 1.00	19 00	
1 at 1.22	1 22	
4 at 1.25	5 00	
2 at 1.50	3 00	
1 at 1.75	1 75	
1 at 2.00	2 00	
(171)		$85 52

Public vehicles		$99,322 07
Public commercial vehicles		23,748 49
Lists		155 55
Fines		93,954 46
Postage		58 85
Miscellaneous		14 00
Testing headlights		160 00
Examination Fees		20,148 00
437,123 at $0.25	$109,280 75	
51,574 at .15	7,736 10	
608,719 at .10	60,871 90	
12,614 at .05	630 70	
(1,110,030)		178,519 45
Express charges paid by agents		184 28
Allowance for use of typewriters by agents		1,900 00
Cheques charged back by Provincial Treasurer as N.S.F.:		
Lawrence Park Garage	$23 00	
I. E. Epps (Hanna Bros.)	20 00	
		43 00
Refunds deducted by Treasurer		5,698 00
Due from agents		155 80
Deposited with Treasury as shown by Treasurer's statement		5,610,442 80
		$5,796,941 33
Paid by Bonding Companies:		
Ernest	$198 45	
Rowe	913 75	
Berney	14 00	
Fletcher	426 40	
1930 balance and interest paid	80 79	
		1,633 39
		$5,795,307 94

STATEMENT OF REVENUE COLLECTED DURING THE FISCAL YEARS 1904-1931, INCLUSIVE

Year	Receipts
1904	$1,282 00
1905	3,096 65
1906	5,523 15
1907	8,098 50
1908	10,007 75
1909	12,418 75
1910	24,394 01
1911	50,831 22
1912	73,255 96
1913	105,558 95
1914	149,210 45
1915	334,759 78
1916	639,987 09
1917	930,753 00
1918	1,214,093 87
1919	1,580,105 61
1920	1,990,833 38
1921	2,945,360 36
1922	3,477,430 13
1923	4,296,009 32
1924	4,785,235 13
1925	5,638,993 38
1926	6,415,713 05
1927	5,964,863 63
1928	6,470,151 79
1929	7,848,448 58
1930	5,547,254 58
1931	5,610,442 80

REPORT OF THE FINANCIAL RESPONSIBILITY DIVISION, MOTOR VEHICLES BRANCH, DEPARTMENT OF HIGHWAYS, ONTARIO, 1931

FINANCIAL RESPONSIBILITY OF OWNERS AND DRIVERS

The financial responsibility provisions of The Highway Traffic Act represent probably the most advanced type of motor vehicle safety legislation in operation in any country in the world. Adopted after the most exhaustive investigation, they embody the ideas and opinions of the world's best known automobile, highway, legislative, legal, safety and insurance experts in such a manner as to assure the fullest available security to victims of automobile accidents, to impress upon motorists their responsibility in the cause of safety, to impose no hardship on the safe and sane driver, and to place no burden on the insurance companies, (and so indirectly on their policy-holders) such as might result from general compulsory insurance.

In submitting this first annual report, it is necessary that a résumé of the factors and events leading to its adoption be considered briefly, in order to determine to what extent it has accomplished the results desired during the sixteen months it has been operative.

In the early part of the last decade, the increasing loss of life and health and property through automobile accidents, and the inability of many motorists to pay for the damages resulting from their negligence or recklessness, led to an agitation for universal compulsory insurance. Bitterly opposed by automobile clubs and insurance institutions, it nevertheless gained considerable headway and in 1927 such a law became operative in Massachusetts, the only state or province in America to adopt such drastic legislation.

Early in 1929, the Honourable Frank E. Hodgins, a Justice of the Supreme Court in Ontario, was commissioned by the Government of Ontario, to enquire into the question of Automobile Insurance generally, with special reference to premium rates and Government supervision. During a delay, due to the time required by the companies to prepare certain essential data, Mr. Justice Hodgins turned the enquiry into the matter of compulsory insurance and related features, considering this a matter of supreme importance for the protection of the public against the now tremendously increased motor vehicle menace.

His investigation carried him to the capitals of many of the United States and Europe, where every phase of compulsory insurance, and safety legislation was studied.

In an interim report, dated March 3rd, 1930, and delivered to the Legislative Assembly, March 6th, Mr. Justice Hodgins presented the opinion that General Compulsory Liability Insurance as required in Massachusetts did not solve but rather aggravated the situation, inasmuch as it had apparently not only failed to reduce the number of accidents, but its psychological effect was such as to tend to increase the accident hazard, and so increase premium rates, thus penalizing the lawful driver for the benefit of the few reckless individuals.

As public safety was the major factor to be considered, he believed that legislation, patterned after the American Automobile Association Safety Responsibility Bill and adapted to Ontario conditions, offered the most satisfactory solution of the problem, and appended to his report, a draft bill, which in its essentials was adopted by the Legislature as "The Highway Traffic Amendment Act, 1930" and is now known as Part XIII of The Highway Traffic Act, or the Financial Responsibility Section, and Part XIV—covering Accident Reporting and Statistics (for which a separate report is made herewith).

The main features of the Financial Responsibility Law include provision for the suspension of the vehicle permits and drivers' licenses of drivers convicted of certain offences, and for non-payment of judgments arising out of suits for the recovery of damages sustained in motor vehicle accidents, until proof of financial responsibility to the amount of $11,000.00 has been filed with the Registrar of Motor Vehicles for the Province; such proof to be accepted in any of three forms, (a) the certificate of a licensed insurer to the effect that an insurance policy of this amount is in full force and effect; (b) a surety bond of acceptable nature or; (c) the certificate of the Treasurer of Ontario that money or securities to the value of $11,000.00 has been deposited with him under the terms required by the Act.

In the case of failure to pay judgment, the suspension may not be relieved solely by filing proof of financial responsibility, but such relief is fully dependent on the settlement of the judgment or a satisfactory arrangement for payment in installments, default in which will renew the suspension until the judgment is satisfied.

This is the greatest safety feature of the Act, and that the importance of such a measure was fully realized is evidenced by the fact that in Ontario in 1929 it had been proposed by the Honourable Leopold Macaulay, the present Minister of Highways, as an independent self-contained measure, but was not pressed, pending consideration of the entire question of Compulsory Insurance and Financial Responsibility.

In commenting on this Section of the Bill, Mr. Justice Hodgins' report says, in part:

"It is important to the scheme of the Act as a safety measure. If this provision is not enacted the reckless motorist will understand that the worst that can happen to him under the Safety Responsibility Law, if he becomes involved in an accident, is that he will be required to show evidence of financial responsibility for the future, which he can probably do by buying an insurance policy.

"If, on the other hand, this provision is included in the Bill he will realize that he must drive carefully and avoid accidents lest he lose his privilege of driving a motor car (which may be his means of livelihood) by reason of inability to pay a judgment obtained against him. Of course, he may protect himself by procuring insurance before the accident occurs, but even in that event he may appreciate, or soon learn, that the company may cancel his policy on ten day's notice, that evidence of financial responsibility is essential to his right to continue to drive on the highway, and that other insurance companies may be unwilling to issue a policy to a driver whose insurance has been cancelled by another company."

A new feature of the Ontario law, since followed in other jurisdictions, provides for the voluntary filing of proof of financial responsibility. Thus a motorist may protect himself against the inconvenience of a possible suspension and by so doing, he also protects the possible victim of any misadventure on his part against any damages he may sustain.

In this matter of protection of accident victims against pecuniary loss, the Act makes absolute the liability of insurers to third parties. That is to say, no illegal act or misrepresentation on the part of the insured absolves the insurer from liability to the injured party, though provision is made for the recovery from the insured, of any sums paid by the insurer under such circumstances.

Before the adoption of this principle, many legitimate claims of victims of accidents had remained unpaid because a policy, as then issued, was a contract of indemnity of the insured only, and did not give direct rights to third parties against insurance companies. The standard policy provided in the statutory conditions that the insurance company should not be liable while the automobile was being driven by an intoxicated person or one under the age limit fixed by law or in the absence of special permission if the automobile had been mortgaged. It was also provided that if the policyholder had falsely described the property or knowingly misrepresented any circumstances required by the written application, the policy should be void. Most policies also included a set of provisions which declared that the insurance company should not be liable if the automobile were driven with a trailer attached, or for hire or gain, or in any race or speed test. Now, however, all such defences have been swept away in the interest of the absolute financial responsibility of all insured motorists, and the protection of the victims of their negligence, and every proven claim must be settled by the insurer without regard to any offence or omission on the part of the insured.

One other provision designed to serve the double purpose of inducing safe driving on Ontario highways by visiting drivers, and also to impress upon Ontario drivers the necessity of careful driving when abroad, is a reciprocal feature, making the Act effective against both Ontario and foreign drivers either here or in other states or provinces where similar laws are in force.

In conjunction with this feature the Ontario law makes extremely liberal arrangements for the filing of proof of financial responsibility by non-resident drivers, in that it provides for the acceptance of certificates of insurers not licensed to do business in Ontario, upon condition that they undertake to permit the interpretation of their policies under Ontario terms, and appoint the Registrar of Motor Vehicles as attorney to accept service of notice of process for them, in any action arising out of a motor vehicle accident in Ontario, and that they undertake to appear in any such action, and to satisfy any final judgment rendered against them or their insured by a court in Ontario, in any such action or proceeding.

When it is considered that eighty-three insurance companies (including many of the largest operating in the United States) have filed such agreements with the Registrar of Motor Vehicles, it becomes apparent that the possible Ontario victims of non-resident drivers are afforded enormously increased protection, and where formerly it was necessary to bring action in a court under whose jurisdiction the insurer operated, it is now possible to obtain absolute judgment and final settlement through an Ontario court, eliminating much of the delay, expense, and inconvenience which were formerly encountered by victims of visiting motorists, in their attempts to obtain satisfaction of damage claims.

Thus it will be seen the Act has three main objectives:

1st Highway Safety.

2nd Protection in at least a monetary sense for the victims of motor vehicle accidents.

3rd The control or banishment of dangerous or irresponsible drivers.

The extent to which these ends have been accomplished may be seen from a consideration of the following statistics.

	Calendar Year 1931	Sixteen Months Ending Dec. 31st, 1931
Number of Ontario drivers' licenses suspended:		
(a) For convictions under Section 72 (1)	3,402	4,351
(b) For non-payment of judgment	41	41
Number of non-residents suspended and certificate of conviction transmitted to Registrar of home province or state	314	393
Number of Ontario drivers who have filed proof of financial responsibility:		
(a) Compulsorily	1,478	1,654
(b) Voluntarily	462	804
Number of non-residents who have filled proof:		
(a) Compulsorily	16	16
(b) Voluntarily	16	17
Number of fleet owners who have filed proof of financial responsibility	....	65
Number who have proved financial responsibility by means of:		
(a) Certificate of Insurance	1,971	2,555
(b) Surety Bond	1	1
(c) Certificate of Provincial Treasurer	....	....
	1,972	2,556
Number of cases where notice of process has been served upon Registrar pursuant to Section 47a	3	4
Number of licensed insurers whose certificates are acceptable as proof of financial responsibility	174	....
Number of unlicensed insurers whose certificates are acceptable as proof of financial responsibility of non-resident drivers as provided in Section 78 (3)	83	....

With regard to the compensation of accident victims, a highly successful result is indicated. In response to a questionnaire sent out by Mr. Justice Hodgins in the course of his enquiry, a very inadequate percentage of replies indicated that in over 1,000 cases during a three-year period, victims had been unable to collect valid claims because the motorist at fault was not financially responsible.

The fact that it has been necessary to suspend licenses in only forty-one such cases over a period of sixteen months, indicates very clearly that the threat of suspension is a powerful lever for prying satisfactory settlements from unwilling judgment debtors, and undoubtedly the thirty-nine who remain suspended (two having settled claims and filed proof of financial responsibility) are deserving of no sympathy or further consideration.

However, the figures regarding suspensions for this cause will never show the true value of the Act, but correspondence with solicitors and attorneys for parties to civil actions arising out of motor vehicle accidents indicates that, in most cases, the threat of a judgment creditor's solicitor to report the failure of the judgment debtor to pay the judgment is sufficient to force a prompt settlement.

Of the 4,351 drivers who were suspended for convictions under Section 72 (1) of The Highway Traffic Act, 1,652 have filed proof of financial responsibility and regained their driving licenses. The remaining 2,699 were still under suspension on December 31st, 1931. Making some allowance for a few whose definite period of suspension had not expired at that date, it appears that at least 2,500 drivers have been put off the road for offences against public safety.

This is indeed a very satisfactory accomplishment and indicates a considerable measure of success in eliminating the small minority of motor vehicle operators who are reckless and irresponsible, and to whom is chargeable the mounting toll of loss of life and injuries to persons and property, and against whom the Act is frankly directed.

The provision for the interchange of suspension rulings has resulted in the sending of 393 certificates of convictions of non-resident motorists to the proper authorities in other states and provinces. These 393 non-residents lost their driving privileges here and sixteen have been reinstated through having filed proof of their financial responsibility in this Province. It may be pointed out that a non-resident suspended in Ontario is not only compelled to prove financial responsibility in Ontario to regain his driving privileges here, but (if he is from a state or province which has reciprocal arrangements with Ontario) the suspension ruling is operative in the same manner in his home province or state and he must also file proof there before he may again operate a car.

Thus in compelling compensation to accident victims and in eliminating many of the dangerous and irresponsible type of driver, the law is accomplishing two of its principal aims, and while lack of comparative statistics for former years makes it difficult to demonstrate the value of the legislation as a safety factor, there appears to be a growing concensus of opinion in motor vehicle and insurance circles that, along with strict enforcement of the motor vehicle statutes and municipal by-laws by the courts and police, it is already making a distinct contribution towards highway safety and accident prevention.

REPORT OF THE ACCIDENT REPORTING DIVISION, MOTOR VEHICLES BRANCH, DEPARTMENT OF HIGHWAYS, ONTARIO, 1931

FOREWORD

In any plan of highway safety and financial responsibility, the compilation of accident statistics and drivers' records plays a major part, because such statistics provide practically the only yardstick by which the success or failure of legislative measures can be judged.

Thus when the "Interim Report on Compulsory Insurance and Safety Responsibility Laws" was made by the Honourable Mr. Justice Hodgins, he included a very forceful recommendation on this subject, saying in part:

> "The importance of collecting records cannot be over estimated, and if they are properly kept a great step towards safety can be made. . . . .
>
> . . . . ."I may add the recommendation of the California Committee, issued last year, which insists on the importance of, and recommends:
>
> " 'Compulsion, and adequate uniform methods, of accident reporting; collection and analysis of accident and traffic statistics; study of accident causes and trends, and of traffic problems and regulations. In short, acquisition of the knowledge that must be the basis of intelligent regulation.' "

In accordance with the terms of Part XIV of The Highway Traffic Act, machinery was set up, for the collection and analysis of accident reports, and much progress has been made, despite the lack of comparative figures for earlier years. A plan has been laid down for safety work along three definite lines and accident records have an important part in these three fields of work.

(a) For educational purposes, by disclosing definite causes and conditions of accidents and by emphasizing the need of preventive action on the part of the individual and of law enforcing bodies.

(b) By providing a means for observing and aiding the effectiveness of various restrictive measures.

(c) For focusing the attention of highway and motor vehicle engineers upon existing hazards, the correction of which is their responsibility.

Safety education has been carried on for several years by the Motor Vehicles Branch, and with the inauguration of the accident reporting laws, efforts along this line were co-ordinated with the work of the new division. Ontario pioneered in the use of newspaper and billboard advertising in safety education, and during the last few years widespread campaigns, using these methods as well as radio broadcasting, motion pictures and "talkies," have carried safety messages to all parts of the Province. In addition to this general work an intensive campaign among the school children of the Province, using blotters, pamphlets and posters has been conducted and very gratifying results are reported.

It is believed that the inclusion of the teaching of safety in the curriculum of the schools of the Province would be a definite forward step in the scheme of safety education, and in the secondary schools this teaching might be broadened to include a knowledge of the rules of the road and safe driving practices, among the children who are approaching or have attained driving age.

So far the direct educational work of the Accident Division has been confined to an endeavour to stimulate and maintain public interest in the accident situation. To this end the Division has distributed to all daily papers throughout the Province and to other persons or organizations definitely interested, monthly accident summaries. These statistics have appeared, according to our clipping records, in about seventy different newspapers in Ontario, about four hundred and fifty articles having been printed in addition to many editorials which the data have inspired.

It is hoped that the summarized statistics may serve to bring to the public a realization of the gravity of the situation, since the heretofore scattered reports of single accidents have lost the power to create any great appreciation of the need of co-operation for public safety.

One other educational factor, that is, the power of the police and courts cannot be overlooked. The exaction of the maximum penalties in cases of flagrant violations of the rules of the road is one of the most forceful educational means available, and if utilized to the fullest possible extent, would do a great deal towards impressing those drivers who can be taught to respect the rights of others only through the application of rigorous punishment. A few such examples would also serve as a warning to all drivers.

During the first four months of the operation of the Act much of the time of the Department was devoted to educating the police and public as to the requirements of the Act, and in enlisting their co-operation. As many persons were unfamiliar with the statute, the statistics obtained during this period were far from complete. However, during 1931 improved methods of collecting reports and increased public co-operation largely overcame this difficulty.

Some difficulty with the form of report was also encountered because the original form required individual reports from each driver involved and though the reports were made without prejudice and could not be made the basis of a court action, it was readily apparent that few drivers were prepared to admit any fault or to accept a share of the responsibility for the accident, with the result that where two reports of the same mishap were received, the statements made were very frequently at direct variance with each other. A new form requiring the investigating police officer to make the report after viewing the scene of the accident and interviewing the drivers involved was tried with the co-operation of the Motorcycle Patrol of the Ontario Provincial Police. This has proven far more satisfactory, providing as it does an unbiased opinion as to the cause of the accident, and considerably more complete information than was usually obtained with the original form. It is proposed to adopt this report form if it continues to provide satisfactory information after further tests.

As the unfortunate lack of data for any period previous to September 1st, 1930, makes it impossible to determine as yet the effectiveness of restrictive measures, effort in this regard has been extended firstly, to the revocation of driving privileges of those operators whose physical defects render them peculiarly liable to accidents, and secondly, to the closer observation of the records of drivers who figure in more than one accident. Records of this type are retained from year to year in order that action may be taken when necessary against this small number of drivers who are participants in a large proportion of accidents.

Accident spot-maps and card files have been maintained to detect points at which accidents occur most frequently. Copies of spot-maps have been sent, at intervals, to the larger cities for the information of their traffic departments. Opinions and recommendations of coroners, traffic officers and others, regarding hazardous locations or conditions, have been forwarded to the engineering departments and to any other department concerned.

While the following study is more detailed and wider in scope than any previously attempted, it is nevertheless somewhat difficult to base definite recommendations on the experience of a single year. However, certain conclusions have been reached and though they are indicated to some extent in the discussion of the various tables in the report, they may be briefly summarized here.

Two types of accidents stand out in importance beyond all others, namely, (1) collisions with pedestrians and (2) collisions between motor vehicles. Upon the knowledge of the causes of these two types of accidents and the application of this knowledge depends any hope for the reduction in number and in seriousness of all accidents.

It is very evident that the human element is the preponderant factor in motor vehicle accidents and education must be largely depended upon to improve the situation. In this respect two major points must be emphasized. The first is the inculcation of safer habits in the pedestrian, thus reducing the number of accidents resulting from crossing between intersections and from stepping out from behind parked vehicles. The second point is to impress upon motorists their responsibility for the safety of children who are themselves essentially irresponsible. Recognition by motorists of the fact that a life may depend on the care and foresight shown in approaching children offers the best hope of reducing the toll of young lives.

The human factor also enters largely into railroad crossing accidents, as evidenced by the fact that over twenty-five per cent. of such happened at crossings where some form of warning or protection had been provided. It is apparent that motorists still fail to appreciate the terrible hazard which the railway crossing represents.

Motorists who drive on the wrong side of the road and motorists who drive too fast for road and traffic conditions are two of the greatest menaces to highway safety. These with the attendant evils of cutting in and driving off roadway, accounted for almost fifty per cent. of all reported violations causing accidents during the year and may have played a part in other mishaps in which they were not the principal factor. As earlier efforts in accident prevention have been concentrated to a great extent on these violations—apparently with little avail—it seems that only by stricter enforcement of the traffic laws may further success be attained.

The mechanical condition of the vehicles involved in accidents is an important feature, and it appears that some reduction of the accident hazard might be achieved through closer inspection, plus a more rigid enforcement of the laws regarding brakes and lights. In this respect it may be noted that, though no statistics on this feature have been prepared, consideration of the reports indicates that horse-drawn vehicles are proportionately more frequently on the road after dark without lights than are motor vehicles.

The charts and tables on the following pages are objective in nature epitomizing what happened in 9,241 accidents. As accidents are in the vast majority of cases due to human negligence, accident prevention appears to be a psychological rather than an engineering problem, and the great need is to know *why* these accidents happen.

Safe walking and safe driving under present conditions require alertness and intelligence; and by "intelligence" is meant good judgment, law observance, an appreciation of the rights of others, and a realization of the appalling and wholly needless loss of life and property which can and must be checked.

TABLE OF CONTENTS

TABLE

Motor Vehicle Accidents Resulting in Deaths, in Injuries and in Property Damage Only by Types 1

Classification of All Accidents by Location 2

Violations of Drivers in Accidents 3

Action of Pedestrians Involved 4

Condition of Pedestrians Involved 5

Hours of Occurrence 6

Days of Occurrence 7

Number of Accidents by Month and Result 8

Road Location 9

Road Surface Prevailing 10

Road Condition Prevailing 11

Light Condition Prevailing 12

Weather Condition Prevailing 13

Accidents at Railroad Crossings 14

Types of Vehicles Involved 15

Condition of Vehicles Involved 16

Types of Brakes on Vehicles Involved 17

Direction of Travel 18

Sex of Drivers 19

Ages of Drivers 20

Length of Experience of Drivers Involved 21

Condition of Drivers Involved 22

Annual Motor Vehicle Fatalities 23

The Trend of Deaths from Motor Vehicles and from Three Diseases 23a

Number of Motor Vehicle Fatalities by Type of Accident and by Age Group 24

Classification of Victims of Fatal Accidents 25

Number of Injured by Type of Accident and by Age Group 26

Nature of Injuries in Fatal and Non-fatal Accidents 27

TABLE No. 1—MOTOR VEHICLE ACCIDENTS RESULTING IN DEATHS, IN INJURIES AND IN PROPERTY DAMAGE ONLY, BY TYPES

Motor Vehicle Collision with	Number of Accidents	Per cent of Total	Number of Fatal Accidents	Per cent of Total	Number of Personal Injury Accidents	Per cent of Total	Number of Property Damage Only	Per cent of Total
Pedestrian.......	2,989	32.3	252	48.0	2,737	44.2	.....	.....
Other auto.......	3,829	41.4	67	12.8	1,790	28.9	1,972	78.1
Horsedrawn......	238	2.6	11	2.1	150	2.4	77	3.0
Railroad train....	152	1.7	43	8.2	77	1.2	32	1.3
Street car........	218	2.4	11	2.1	89	1.5	118	4.7
Other vehicles....	10	.1	.....	.....	6	.1	4	.1
Fixed object......	455	4.9	35	6.7	276	4.5	144	5.7
Bicycle..........	448	4.9	18	3.4	430	7.0	.....	.....
Motorcycle.......	187	2.0	10	1.9	168	2.7	9	.4
Non-collision.....	656	7.1	73	13.9	453	7.3	130	5.2
Miscellaneous.....	59	.6	5	.9	15	.2	39	1.5
Total........	9,241	100.0	525	100.0	6,191	100.0	2,525	100.0

Accidents reported for the year numbered 9,241. Of each 100 accidents, roughly:

6 resulted in death to one or more persons;
34 resulted in injury to one or more persons;
33 resulted in injury to one or more persons and property damage;
27 resulted in property damage in excess of $50.00.

The first column of the above table shows the frequency of occurrence of the various classes of accidents.

It will be seen that almost three-quarters (73.5 per cent.) of all accidents were the result of the collision of a motor vehicle with another motor vehicle or with a pedestrian, and an additional 12 per cent. to non-collision and collision with fixed object accidents, leaving less than 15 per cent. to be accounted for by the various other hazards.

While collisions with other motor vehicles are the most numerous, they are also the least serious in result as regards personal injury, over half of this type resulting in property damage only. This is largely due to the fact that a good proportion of this type of accident happened at intersections where speeds had been somewhat reduced. Conversely, non-collision accidents and collisions with objects occur more frequently through vehicles leaving the highway at high speeds and result in a greater proportion of personal injury accidents.

Before discussing this section regarding location of the accidents, it is necessary that some explanation of the various classifications be given. King's Highways include 2,900 miles of hard, surfaced roads in the southern section of the Province, under the direct supervision of the Department of Highways. Government roads such as the Ferguson Highway and others in Northern Ontario, have been classified as County or Township Roads, the main highways of this type being classified as County Roads and all others as Township Roads. Under the heading Township Roads are also included most of the suburban roads, particularly in the vicinity of Toronto. In the more general classification, "Rural and Urban Roads," urban roads include the roads in cities, towns and villages, while Township and County Roads and King's Highways are considered rural. In this respect it is well to remember that, as many of the suburban roads included under the township classification, in reality present urban conditions, the division is not extremely sharp. However, as it is impossible to obtain exact information regarding the environment of all these accidents, no finer division is practicable.

While every effort has been made to obtain reports of all accidents coming under the notice of this Branch so that these statistics may be as complete as possible, a study of Table 2 reveals the fact that entire success has not been attained. This is most noticeable in the figures relating to villages and has also been observed in relation to the smaller towns. In the latter case the failure is not so easily seen in the figures given here. In the case of Villages, it can be seen that while all accidents reported total only 1.1 per cent. of the provincial total, the fatalities amounted to 3 per cent. of all deaths caused by motor vehicles. As it cannot be assumed that accidents in villages are three times more dangerous than those accidents at other points, the explanation must lie in the fact that the local police forces have not co-operated in reporting accidents of less serious consequence.

More than half of all reported accidents occurred in cities, but less than one-third of the fatalities resulted from this total. Accidents on King's Highways accounted for 32.8 per cent. of all fatal accidents and half of all deaths.

TABLE No. 2—CLASSIFICATION OF ALL ACCIDENTS BY LOCATION

	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Cities	5,160	55.8	165	31.4	3,675	59.4	1,320	52.3
Towns	518	5.6	37	7.0	328	5.3	153	6.0
Villages	99	1.1	16	3.0	59	.9	24	.9
King's Highways	2,049	22.2	172	32.8	1,249	20.2	628	24.9
County roads	900	9.7	77	14.7	541	8.7	282	11.2
Township roads	515	5.6	58	11.1	339	5.5	118	4.7
Total	9,241	100.0	525	100.0	6,191	100.0	2,525	100.0

CLASSIFICATION OF ALL ACCIDENTS BY URBAN AND RURAL ROADS

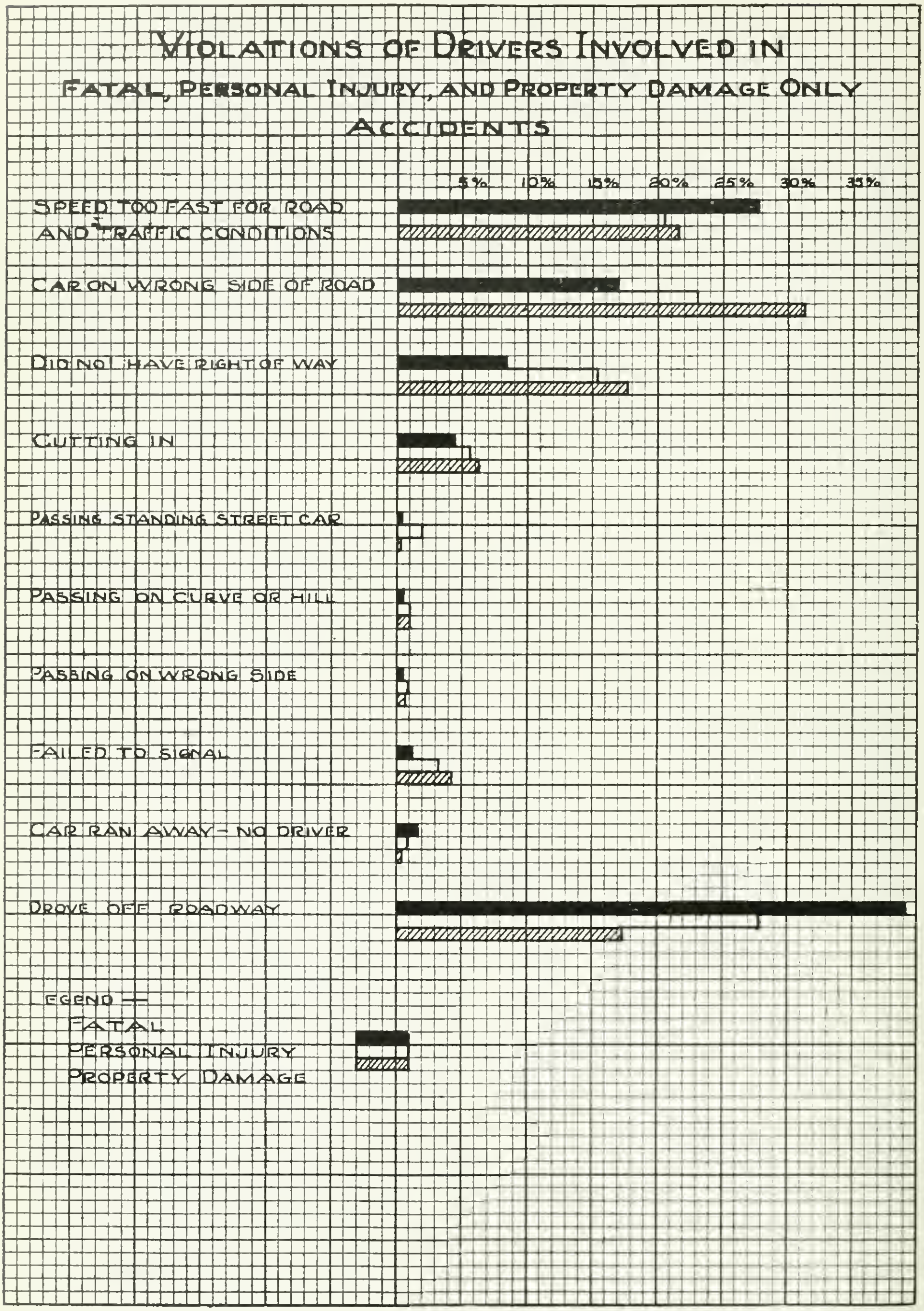
	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Urban roads	5,777	62.5	218	41.4	4,062	65.6	1,497	59.2
Rural roads	3,464	37.5	307	58.6	2,129	34.4	1,028	40.8
Total	9,241	100.0	525	100.0	6,191	100.0	2,525	100.0

The preponderance of serious accidents on the Rural Roads (8.8 per cent. of all rural accidents caused loss of life) may be explained by the lack of police supervision, lack of fixed illumination, and, most important of all, by higher rates of speed. More serious damage and injuries relate to higher speeds, inasmuch as the energy of the vehicle increases as the square of the speed; that is, a vehicle going forty miles per hour is four times more dangerous than one going twenty miles per hour.

The larger percentage of "Property Damage Only" accidents on the rural roads is probably due to the fact that lower urban speeds keep many accidents of this type under the $50.00 limit and so eliminate them from these statistics. In addition, the greater number of pedestrian accidents in cities serves to swell the total of personal injury accidents in the urban figures.

TABLE No. 3—VIOLATIONS OF DRIVERS IN ACCIDENTS

	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Speed too fast for road and traffic conditions	881	21.2	64	27.9	488	20.5	329	21.4
On wrong side of road	1,069	25.7	39	17.0	550	23.0	480	31.1
Did not have right of way	663	15.9	17	7.4	371	15.5	275	17.8
Cutting in	240	5.8	10	4.4	134	5.6	96	6.2
Passing standing street car	50	1.2	1	.4	48	2.0	1	.1
Passing on curve or hill	40	1.0	1	.4	23	1.0	16	1.0
Passing on wrong side	30	.7	1	.4	19	.8	10	.7
Failed to signal	141	3.4	3	1.3	74	3.1	64	4.2
Car ran away—no driver	22	.5	4	1.7	15	.6	3	.2
Drove off roadway	1,023	24.6	90	39.1	666	27.9	267	17.3
Total	4,159	100.0	230	100.0	2,388	100.0	1,541	100.0


VIOLATIONS OF DRIVERS INVOLVED IN
FATAL, PERSONAL INJURY, AND PROPERTY DAMAGE ONLY
ACCIDENTS
5%
10%
15%
20%
25%
30%
35%
SPEED TOO FAST FOR ROAD AND TRAFFIC CONDITIONS
CAR ON WRONG SIDE OF ROAD
DID NOT HAVE RIGHT OF WAY
CUTTING IN
PASSING STANDING STREET CAR
PASSING ON CURVE OR HILL
PASSING ON WRONG SIDE
FAILED TO SIGNAL
CAR RAN AWAY – NO DRIVER
DROVE OFF ROADWAY
LEGEND —
FATAL
PERSONAL INJURY
PROPERTY DAMAGE

The responsibility for approximately 67 per cent. of all the accidents reported during 1931 was attributable to the drivers.

The foregoing table discloses the reported dangerous driving actions of those involved.

Too much emphasis cannot be laid upon the importance of checking these bad driving practices through enforcement of The Traffic Act and education of the drivers as to their responsibilities.

Driving "on wrong side of road" and "driving off roadway" are shown to be the two most frequent actions of those involved in accidents. "Speed too fast for road and traffic conditions" is seen to be the third most prolific cause. While fast driving is a factor in many accidents, this action is not definitely indicated in the table as it has been treated in its relation to the time and distance required in which to bring the vehicle to a full stop rather than in the rate of miles per hour. It is safe to say, however, that in the majority of cases "driving off the roadway" and "driving on the wrong side of the road" are hazards incident to speeds that are too high for such conditions as curves, narrow roads, hills or congested traffic.

Failure to exercise proper care and to consider others at intersections is shown as a pronounced cause of collisions, since 15.9 per cent. of the violations are classified as "Did not have right of way." This violation was most frequent on the urban roads as a cause of collison between motor vehicles.

Impatience and haste when and where swift movement is not compatible with safe driving are evidenced by "Cutting in" which accounted for 240 of the violations. This action resulted in 10.6 per cent. of the rural "Collision between motor vehicle" type of accident.

TABLE No. 4—ACTION OF PEDESTRIANS

	All Accidents		Accidents Involving Pedestrians			
			Fatal		Non-fatal	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Crossing at street intersections:						
(a) with signal	75	2.5	.....	.....	75	2.7
(b) against signal	105	3.5	4	1.6	101	3.7
(c) no signal	350	11.7	27	10.7	323	11.8
(d) diagonally	53	1.8	8	3.2	45	1.7
Crossing between intersections	559	18.7	36	14.3	523	19.1
Waiting for or getting on or off street car	97	3.3	4	1.6	93	3.4
Standing in safety zone	4	.1	.....	.....	4	.1
Getting on or off other vehicle	58	1.9	10	4.0	48	1.7
Children playing in street	884	29.6	48	19.0	836	30.6
At work in roadway	76	2.5	15	5.9	61	2.2
Riding or hitching on vehicle	63	2.1	11	4.4	52	1.9
Walking on highway	143	4.8	38	15.1	105	3.8
Coming from behind parked vehicle or object	286	9.6	24	9.5	262	9.6
Crossing highway	129	4.3	20	7.9	109	4.0
On sidewalk	107	3.6	7	2.8	100	3.7
Total	2,989	100.0	252	100.0	2,737	100.0

In the above table it will be noted that "Children playing in the street" is the most frequent single cause of pedestrian accidents. Many accidents have been classified under "playing in the street" when the child actually darted from behind a parked vehicle or crossed between intersections, because the immediate action precipitating the accident was the result of such play.

The number of pedestrians injured "Between intersections" and "At intersections where there are no signals" demonstrates the need for the recognition of the pedestrian's right of way at intersections and a better recognition by the pedestrian of the motorist's rights between intersections.

The dangers of walking on rural highways where there are no sidewalks are indicated in the above table, because this action, comprising 4.8 per cent. of the total number of accidents involving pedestrians resulted in 15.1 per cent. of the fatal pedestrian accidents. Where there are no sidewalks pedestrians can generally walk more safely on the left hand side of the roadway facing traffic. Poor visibility provides an additional danger necessitating further caution and alertness on the part of the pedestrian and driver.

TABLE No. 5—CONDITION OF PEDESTRIANS

	All Accidents		Fatal		Non-fatal	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Intoxicated	62	2.1	4	1.6	58	2.1
Physical defect	52	1.7	13	5.1	39	1.3
Confused by traffic	367	12.3	37	14.7	330	12.2
View obstructed	593	19.8	43	17.1	550	20.1
Normal or not stated	1,915	64.1	155	61.5	1,760	64.3
Total	2,989	100.0	252	100.0	2,737	100.0

As the reports from which these statistics are prepared are made by motorists involved, the classification "Condition of Pedestrian" requires considerable qualification, particularly as to the first two classes.

The slightest indication of liquor will prompt the motorist to report the pedestrian as intoxicated, and as police action is seldom taken against an injured pedestrian, verification of such a statement is impossible.

The statistics listed under the heading "Physical defect" cannot be considered as accurately enumerating the number of pedestrians who were suffering from disabilities prior to the accident, owing to the fact that many drivers in their reports classify the injuries sustained in the mishap as pre-existing physical defects of the pedestrian.

Actions of pedestrians involved in accidents listed under "Confused by traffic" and "View obstructed" are usually fairly accurately reported. In most cases the obstruction of the view is caused by pedestrians crossing behind either parked or moving vehicles.

Apart from the above-mentioned considerations, the classification "Normal or not stated" may be accepted as correct because the motorist is not likely to fail to report any condition which might diminish his responsibility.

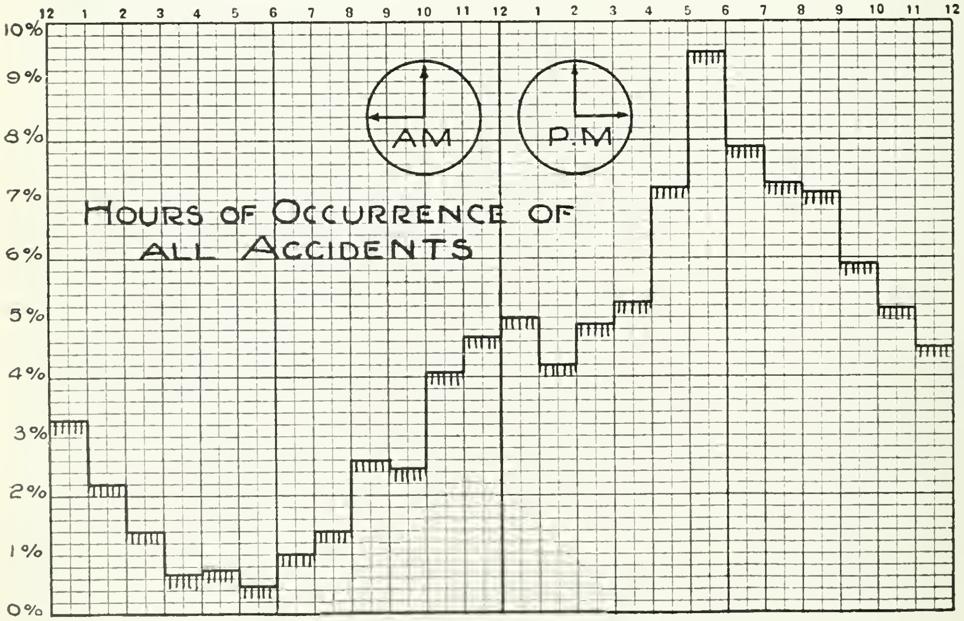


TABLE No. 6—HOURS OF OCCURRENCE

Time	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
12– 1 A.M.	301	3.3	13	2.5	187	3.0	101	4.0
1– 2 "	205	2.2	14	2.7	124	2.0	67	2.6
2– 3 "	129	1.4	7	1.3	64	1.0	58	2.3
3– 4 "	67	.7	6	1.1	39	.7	22	.9
4– 5 "	72	.8	4	.8	32	.5	36	1.4
5– 6 "	45	.5	4	.8	29	.5	12	.5
6– 7 "	90	1.0	8	1.5	60	.9	22	.9
7– 8 "	129	1.4	8	1.5	81	1.3	40	1.6
8– 9 "	245	2.6	18	3.4	152	2.5	75	3.0
9–10 "	234	2.5	13	2.5	144	2.3	77	3.0
10–11 "	379	4.1	18	3.4	272	4.4	89	3.5
11–12 "	431	4.7	23	4.4	296	4.8	112	4.4
12– 1 P.M.	464	5.0	24	4.6	306	4.9	134	5.3
1– 2 "	393	4.2	20	3.8	280	4.5	93	3.7
2– 3 "	452	4.9	19	3.6	289	4.7	144	5.7
3– 4 "	492	5.3	30	5.7	342	5.5	120	4.8
4– 5 "	665	7.2	42	8.0	471	7.6	152	6.0
5– 6 "	882	9.5	40	7.6	643	10.4	199	7.9
6– 7 "	729	7.9	39	7.4	495	8.0	195	7.7
7– 8 "	672	7.3	43	8.2	470	7.6	159	6.3
8– 9 "	658	7.1	42	8.0	449	7.3	167	6.6
9–10 "	542	5.9	32	6.1	374	6.1	136	5.4
10–11 "	481	5.2	30	5.7	297	4.8	154	6.1
11–12 "	413	4.5	25	4.8	244	3.9	144	5.7
Not stated	71	.8	3	.6	51	.8	17	.7
Total	9,241	100.0	525	100.0	6,191	100.0	2,525	100.0

The above table and Figure No. 2 were prepared to indicate the distribution of accidents by hour of the day and show that the peak for all accidents was between 5 and 6 P.M. Approximately 25 per cent. of the accidents occurred during the three hours between 5 and 8 P.M.

The fact that only 5.1 per cent. of all accidents occurred during the two-hour period 8 to 10 A.M. would suggest that the hurry of the drivers to reach their destination, and their more or less fatigued condition enter as accident factors, since the traffic increase is not proportionally great between these morning and afternoon periods.

TABLE No. 7—DAYS OF OCCURRENCE

Days	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Sunday	1,248	13.5	70	13.3	811	13.1	367	14.5
Monday	1,193	12.9	76	14.5	818	13.2	299	11.8
Tuesday	1,164	12.6	65	12.4	784	12.7	315	12.5
Wednesday	1,220	13.2	66	12.6	826	13.3	328	13.0
Thursday	1,277	13.8	75	14.3	869	14.0	333	13.2
Friday	1,287	14.0	72	13.7	866	14.0	349	13.8
Saturday	1,852	20.0	101	19.2	1,217	19.7	534	21.2
Total	9,241	100.0	525	100.0	6,191	100.0	2,525	100.0

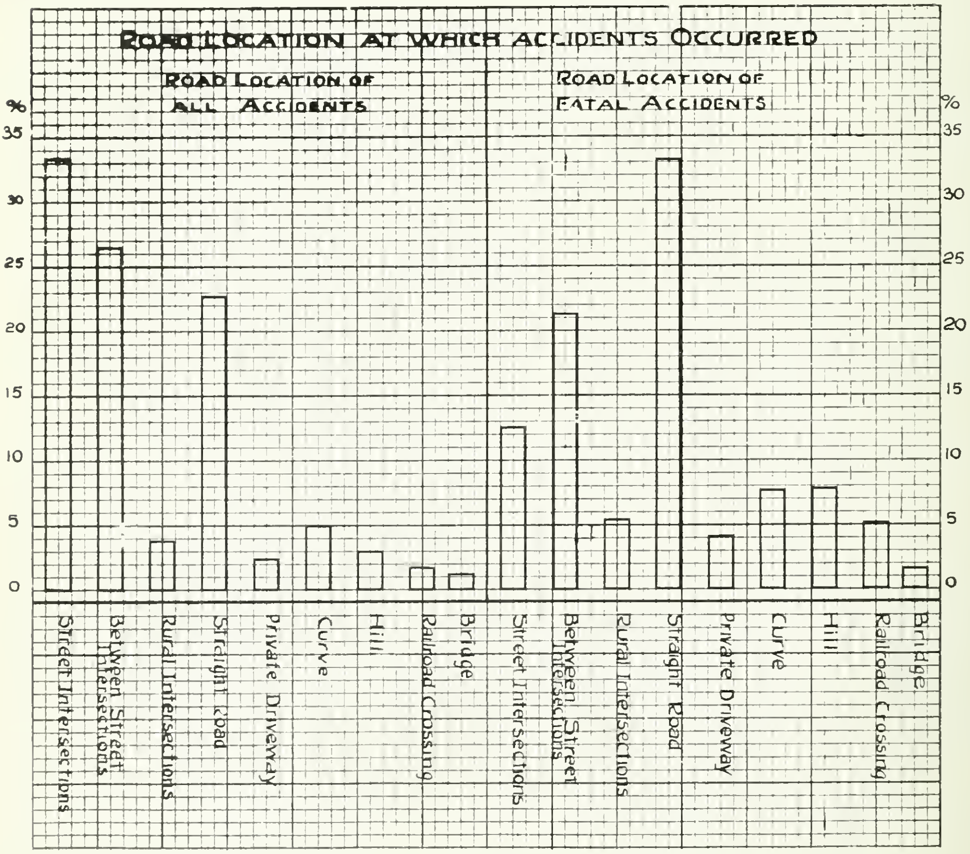
The occurrence of accidents by days of the week is seen to be fairly evenly distributed from Sunday to Friday, with a sharp rise on Saturday.

The effect of increased traffic on accidents is indicated by the fact that accident frequency was greatest on Saturday and Sunday between 6 and 7 P.M. and on the other five days of the week between 5 and 6 P.M.

Pedestrian accidents are more frequent on the urban roads on Saturday and more frequent on the rural roads on Sunday, than on any other day.

TABLE No. 8—NUMBER OF ACCIDENTS BY MONTH AND RESULT

Month	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
January	462	100.0	17	3.7	277	59.9	168	36.4
February	411	100.0	30	7.3	253	61.6	128	31.1
March	380	100.0	22	5.8	244	64.2	114	30.0
April	626	100.0	36	5.7	430	68.7	160	25.6
May	839	100.0	42	5.0	583	69.5	214	25.5
June	857	100.0	55	6.4	591	69.0	211	24.6
July	877	100.0	36	4.1	604	68.9	237	27.0
August	1,022	100.0	72	7.0	670	65.6	280	27.4
September	973	100.0	57	5.9	682	70.1	234	24.0
October	1,026	100.0	55	5.4	698	68.0	273	26.6
November	821	100.0	56	6.8	550	67.0	215	26.2
December	947	100.0	47	5.0	609	64.3	291	30.7
Total	9,241	100.0	525	(5.7)	6,191	(67.0)	2,525	(27.3)



Accident volume followed very closely the traffic volume trend throughout the year. Bad weather during February and March, which reduced traffic during part of these months produced an accident record below the January total. From April the first an ever-increasing traffic volume was paralleled by an increasing accident frequency, reaching a peak in the holiday month of August. Cooler weather in September reduced traffic volume and accidents, but a mild, wet October produced a new peak month, unfavourable road surface and visibility conditions offsetting any decrease in traffic.

The continuance of mild weather and the resulting open roads during November and December maintained the traffic volume at unusual heights during these months.*

TABLE No. 9—ROAD LOCATION

	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Street intersection......	3,084	33.4	67	12.8	2,054	33.2	963	38.1
Between street intersections.............	2,442	26.4	112	21.3	1,870	30.2	460	18.2
Rural intersection.......	358	3.9	29	5.5	228	3.7	101	4.0
Straight road...........	2,103	22.8	175	33.3	1,313	21.2	615	24.4
Private driveway.......	239	2.6	22	4.2	153	2.5	64	2.5
Curve.................	465	5.0	41	7.8	268	4.3	156	6.2
Hill..................	277	3.0	27	5.2	159	2.6	91	3.6
Railroad crossing.......	157	1.7	43	8.2	82	1.3	32	1.3
Bridge.................	115	1.2	9	1.7	63	1.0	43	1.7
Not stated.............	1	.....	.....	.....	1	.....	.....	.....
Total.............	9,241	100.0	525	100.0	6,191	100.0	2,525	100.0

The above table and Figure No. 3 illustrate the distribution and the percentage distribution of all accidents and fatal accidents by road location.

The majority of the accidents reported happened on the urban roads, which fact explains the large number classified under "Street intersection" and "Between intersections." The high rate of fatal accidents as compared to all accidents on the rural roads is quite apparent, every rural classification suggesting the increased seriousness of these accidents.

"Personal Injury" and "Property Damage Only" accidents were much the most frequent at street intersections and the accidents were mainly of the "Collision with other motor vehicle" type.

Accidents on the rural "Straight road," and "Between intersections" on the urban streets, resulted fatally in more cases than in all other locations combined, 54.3 per cent. occurring at these two points. More than 60 per cent. of the urban bicycle accidents occurred "Between street intersections" and 36 per cent. at "Street intersections.

On rural roads, collisions with fixed objects occurred most frequently, in the order named: by driving off the straight road (52.1 per cent.); at curves (22.5 per cent.); at bridges (9.4 per cent.).

Non-collision accidents on the Rural roads occurred most frequently by driving off the straight road (64.0 per cent.); at curves (22.1 per cent.); on hills (6.4 per cent.).

TABLE No. 10—ROAD SURFACE PREVAILING

	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Dry surface............	6,405	69.3	391	74.5	4,431	71.6	1,583	62.7
Wet surface............	1,722	18.6	84	16.0	1,110	17.9	528	20.9
Muddy surface.........	42	.5	3	.6	26	.4	13	.5
Snowy surface..........	350	3.8	17	3.2	190	3.1	143	5.7
Icy surface............	656	7.1	23	4.4	392	6.3	241	9.5
Not stated............	66	.7	7	1.3	42	.7	17	.7
Total.............	9,241	100.0	525	100.0	6,191	100.0	2,525	100.0

The above table gives a comparison of the number and percentage of accidents occurring on dry surfaces and of those occurring on other conditions of the road surface.

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* A winter traffic census on the King's Highways showed an increase in traffic of 34 per cent. Ontario cars and 47 per cent. foreign cars over 1930.

The 69.3 per cent. of all accidents occurred on a dry surface. A comparison of the percentage of "Non-fatal" and "Property damage only" accidents on dry surfaces suggests more care, therefore less serious accidents, under unfavourable surface conditions. The large number of pedestrians involved in fatal accidents prevents the same reasoning for this type of accident, as the pedestrian is not affected to the same degree by road surface conditions.

TABLE No. 11—ROAD CONDITIONS PREVAILING

	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
In good condition	9,103	98.5	514	97.9	6,111	98.7	2,478	98.1
Defect in roadway	58	.6	6	1.1	33	.5	19	.8
Road under repair	70	.8	5	1.0	41	.7	24	.9
Obstruction not lighted	10	.1	.....	.....	6	.1	4	.2
Total	9,241	100.0	525	100.0	6,191	100.0	2,525	100.0

Road conditions encountered by motorists were good in 98.5 per cent. of the accidents that occurred. This is further proof that accident responsibility rests almost wholly upon the human element.

TABLE No. 12—LIGHT CONDITIONS PREVAILING

	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Daylight	5,239	56.7	282	53.7	3,621	58.5	1,336	52.9
Dusk	799	8.7	48	9.1	541	8.7	210	8.3
Night	3,181	34.4	194	37.0	2,015	32.6	972	38.5
Not stated	22	.2	1	.2	14	.2	7	.3
Total	9,241	100.0	525	100.0	6,191	100.0	2,525	100.0

More than half of all accidents happened during daylight, 8.7 per cent. during dusk and 34.4 per cent. at night. Daylight was reported for the 58.5 per cent. of the Personal injury accidents; only 53.7 per cent. of the Fatal accidents occurred during these daylight hours. Dangers incident to night driving become apparent when it is noted that 43.1 per cent. of all accidents occurred between dusk and dawn and 46.1 per cent. of the Fatal accidents occurred during the same period. In spite of heavier traffic during daylight hours, accidents which happened during dusk or dark are almost equal in number to those occurring in daylight.

Poor illumination of vehicle lights or too much light in the form of glare, as well as inadequate illumination of fixed lights were found to be the cause of a considerable number of accidents. Conversley, the remedy would appear to be better fixed illumination, periodical inspection of lights and wiring on vehicles, and an appreciation by all drivers of the disturbing effect on the vision produced by glaring headlights. The depressing of the headlight beam on the approach of drivers is a sane and courteous habit. Special care must be taken on uneven roadways and curves where glare is unavoidably present.

TABLE No. 13—WEATHER CONDITIONS PREVAILING

	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Clear	6,687	72.3	382	72.8	4,564	73.7	1,741	68.9
Cloudy	931	10 1	65	12.4	611	9.9	255	10.1
Fog	140	1.5	8	1.5	87	1.4	45	1.8
Rain	1,098	11 9	50	9.5	708	11.4	340	13.5
Snow or sleet	267	2.9	7	1.3	153	2.5	107	4 2
Not stated	118	1.3	13	2.5	68	1.1	37	1.5
Total	9,241	100.0	525	100.0	6,191	100.0	2,525	100.0

About 72 per cent. of all accidents, 73 per cent. of the Fatal accidents and 74 per cent. of the Non-fatal accidents occurred during clear weather conditions. The higher percentage of "Property damage only" accidents under unfavourable weather conditions is probably due to the slowing up of traffic; accidents occur but tend to be less severe.

TABLE No. 14—ACCIDENTS AT RAILROAD CROSSINGS

	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Guarded crossing, man on duty or gates	11	7.0	1	2.3	6	7.3	4	12.5
Guarded crossing, automatic signal	31	19.7	7	16.3	14	17.1	10	31.3
Unguarded crossing	115	73.3	35	81.4	62	75.6	18	56 2
Total	157	100.0	43	100.0	82	100 0	32	100.0

Railroad crossing accidents, while totalling only 1.65 per cent. of all accidents, accounted for 10.6 per cent. of all fatalities. Out of every 100 persons injured in this type of accident, twenty-nine succumbed.

A close study of the accidents reported during 1931 tends to place a large proportion of the blame for these misfortunes on the drivers. When it is considered that 26.7 per cent. of all accidents happening at railroad crossings were at points where protection in the form of gates or automatic signals had been provided, it becomes evident that nothing but complete elimination of the level crossing will keep drivers out of danger.

As regards light conditions prevailing at time of railway crossing accidents, about 64.1 per cent. occurred during daylight, 3.1 per cent. during dusk and 32.8 per cent. at night.

It has been estimated that the average train passes a crossing in seven seconds. This fact suggests the folly of carelessness and haste at crossings.

TABLE No. 15—TYPES OF VEHICLES INVOLVED

	All Vehicles		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Passenger car	11,172	80.5	479	75 0	6,858	80.9	3,835	80.5
Commercial vehicles	1,946	14.0	110	17.2	1,088	12.8	748	15.7
Taxicab	244	1.8	10	1.6	138	1.6	96	2.0
Bus	101	.7	3	.5	58	.7	40	.8
Motorcycle	282	2.0	23	3.6	250	2.9	9	.2
Trailer	42	.3	1	.2	22	.3	19	.4
All others	15	.1	3	.5	6	.1	6	.1
Not stated	80	.6	9	1.4	58	.7	13	.3
Total	13,882	100.0	638	100.0	8,478	100.0	4,766	100.0

Passenger cars, which comprise by far the largest proportion of motor vehicle registrations, were also the predominant factor in accidents. Commercial vehicles and busses, while involved in accidents in greater proportion than their registration percentage, nevertheless maintained a creditable record when allowance is made for the fact that they are on the road for many hours a day and subjected to practically all conditions of road and traffic.

TABLE No. 16—CONDITION OF VEHICLES INVOLVED

	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
In apparent good condition	11,968	86.2	523	81.9	7,320	86.4	4,125	86.6
Brakes defective	236	1.7	26	4.1	160	1.9	50	1.0
Steering mechanism defective	94	.7	7	1.1	53	.6	34	.7
Glaring headlights	93	.7	3	.5	57	.7	33	.7
One or both headlights out	62	.4	7	1.1	37	.4	18	.4
Tail-light out or obscured	86	.6	2	.3	47	.5	37	.8
No chain (wet and slippery road)	114	.8	2	.3	56	.7	56	1.2
Other defects in equipment	107	.8	3	.5	59	.7	45	.9
Puncture or blowout	96	.7	9	1.4	62	.7	25	.5
Not stated	1,026	7.4	56	8.8	627	7.4	343	7.2
Total	13,882	100.0	638	100.0	8,478	100.0	4,766	100.0

Figures respecting mechanical defects or improperly adjusted equipment require some qualification, as in many cases the vehicles involved are unfit for a test after the accident and the drivers of such vehicles do not admit their failure to keep them in good condition. Defective vehicles are undoubtedly a greater factor in accidents than is indicated by the above table, a point which is borne out by the fact that defective brakes are more frequently given as a contributory cause of pedestrian and bicycle accidents, where brake examination is usually possible, than in any other type of accident.

More than 86 per cent. of the vehicles were said to be operating in "good condition."

Insufficient illumination is shown as a more important cause of collision than glaring headlights, and lights were defective on over 27 per cent. of all cars not in proper condition.

During the year, 888 vehicles were involved which were mechanically defective in some particular. Human irresponsibility is essentially the reason for such a number of vehicles being operated without regard to the condition of the equipment, upon which their proper control depends.

The condition of the vehicles involved, classified according to type of accident, on the urban and rural roads is stated below, the most frequent defect being shown in each case. The larger percentage represents the percentage of vehicles involved which were "In apparent good condition."

Collision with	Urban Roads	Rural Roads
Pedestrian	95.2%; defective brakes..... 3.4%	91.4%; defective brakes....4.2%
Other motor vehicles	97.4%; defective brakes..... .9%	93.7%; tail-light out.......1.4%
Fixed object	82.6%; defective steering.... 7.6%	83.8%; defective steering...5.2%
Bicycle	95.2%; defective brakes..... 3.2%	93.0%; defective brakes....5.3%
Non-collision	64.3%; puncture or blowout..14.3%	79.4%; puncture or blowout.7.7%

TABLE No. 17—TYPES OF BRAKES ON VEHICLES INVOLVED

	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Two-wheel	3,607	26.0	166	26.0	2,352	27.7	1,089	22.9
Four-wheel	9,905	71.4	450	70.5	5,898	69.6	3,557	74.6
Not stated	370	2.6	22	3.5	228	2.7	120	2.5
Total	13,882	100.0	638	100.0	8,478	100.0	4,766	100.0

A considerable proportion of vehicles involved (about 26.0 per cent.) were manufactured prior to the general adoption some years ago of the four-wheel brakes. Because of their age, and due to the extra wear entailed by two parts doing the work now done by four, two-wheel brakes are more difficult to keep in good order; and even when working perfectly they require a much greater distance to bring the vehicle to a stop. This latter fact is shown in the table below:

Speed of Car		Approximate Distance in Feet Car Must Go Before Stopping	
Miles Per Hour	Feet Per Second	Two-wheel Brakes	Four-wheel Brakes
20	29	39	20
25	37	60	31
30	44	88	45
35	51	120	61
40	59	156	80
45	66	197	101

The stopping distances given are the minimum, distances being increased, if the co-efficient of friction is lessened by down grades, icy or wet surface, or worn tires.

TABLE No. 18—DIRECTION OF TRAVEL

Direction	All Vehicles		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Going straight	10,520	75.8	520	81.5	6,563	77.4	3,437	72.1
Turning right	355	2.6	12	1.9	224	2.6	119	2.5
Turning left	1,202	8.7	27	4.2	735	8.7	440	9.2
Backing	160	1.1	12	1.9	117	1.4	31	.7
Car parked or standing still	659	4.7	24	3.8	285	3.4	350	7.4
Slowing down or stopping	217	1.6	5	.8	120	1.4	92	1.9
Skidding	769	5.5	38	5.9	434	5.1	297	6.2
Total	13,882	100.0	638	100.0	8,478	100.0	4,766	100.0

Most accidents, as shown in the table above, occurred while the vehicle was being driven straight ahead.

Vehicles making left turns were involved to a considerable extent, more than three times as many were implicated while "Turning left" as were those "Turning right." Skidding was next in order of frequency and signifies a failure to appreciate the dangers of wet or icy roadways and a lack of knowledge of how to keep a vehicle in control under these conditions.

Twelve persons were killed by vehicles backing.

TABLE No. 19—SEX OF DRIVERS

Sex	No. of Drivers in Accidents	Per cent. of Total	Fatal		Personal Injury		Property Damage Only	
			No.	Per cent.	No.	Per cent.	No.	Per cent.
Male	12,561	94.2	588	95.8	7,714	93.7	4,259	94.8
Female	775	5.8	26	4.2	514	6.3	235	5.2
Total	13,336	100.0	614	100.0	8,228	100.0	4,494	100.0

The above table shows the number of drivers involved in motor vehicle accidents by sex.

No accurate comparison of the accident record of the drivers by sex is possible unless mileage driven and driving conditions met with are equal.

As regards licensed drivers in Ontario during 1931, about 85.8 per cent. were male; 14.2 per cent. were female.

TABLE No. 20—AGES OF DRIVERS

Ages	All Accidents		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Under 18 years	273	2.1	15	2.4	188	2.3	70	1.6
18 to 24 years	2,492	18.7	139	22.7	1,646	20.0	707	15.7
25 to 54 years	6,097	45.7	326	53.1	4,055	49.3	1,716	38.2
55 years and over	642	4.8	40	6.5	438	5.3	164	3.6
Not stated	3,832	28.7	94	15.3	1,901	23.1	1,837	40.9
Total	13,336	100.0	614	100.0	8,228	100.0	4,494	100.0

AGES OF DRIVERS LICENSED IN ONTARIO, 1931

Type of License	Age 16-17	Age 18-24	Age 25-54	Age 55 and over
Operator's Renewal	......	60,667	355,060	52,785
Operator's Original	......	21,447	35,603	2,559
Chauffeur's Renewal	9,231	48,954	71,638	2,367
Chauffeur's Original	9,364	6,915	8,366	244
Total	18,595	137,983	450,667	57,935
Percentage of Total	2.8	20.7	67.8	8.7

Drivers under eighteen years of age were involved in about 2 per cent. of the accidents during the year, although in fatal accidents this percentage increases to 2.4.

More than half the drivers involved, whose age was stated, were between the ages of twenty-five and fifty-four.

In respect to the number of drivers licensed and without taking into account the mileage driven or the responsibility for the accident, these tables suggest that drivers increase in prudence and driving ability with age.

Drivers between sixteen and twenty-five years of age comprised approximately 23.5 per cent. of the licensed drivers and were involved in 29.1 per cent. of all accidents reported.

Drivers between twenty-five and fifty-four years of age comprised 67.8 per cent. of all registered, and were involved in 64.1 per cent. of the accidents.

Operators fifty-five years of age and over comprised 8.7 per cent. of all registered, and were involved in 6.8 per cent. of the accidents.

TABLE No. 21—LENGTH OF EXPERIENCE OF DRIVERS INVOLVED

	All Drivers		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Less than three months	168	1.3	8	1.3	115	1.4	45	1.0
Three to six months....	135	1.0	3	.5	95	1.2	37	.8
Six to twelve months...	65	.5	8	1.3	42	.5	15	.3
One year or more......	8,651	64.8	401	65.3	5,765	70.0	2,485	55.3
Not stated............	4,317	32.4	194	31.6	2,211	26.9	1,912	42.6
Total............	13,336	100.0	614	100.0	8,228	100.0	4,494	100.0

The fact that 95.9 per cent. of all drivers had a year or more of stated driving experience, suggests that many drivers who are thought to be experienced have little appreciation of their responsibilities in the proper manner of operating a motor vehicle.

There were 327 drivers involved in accidents during 1931 whose record showed more than one reportable accident during the sixteen months the Act has been in operation. These drivers were involved in 529 accidents during 1931 and 133 accidents during the last four months of 1930. One driver was involved in four accidents during 1931. Accident repeaters comprised 2.4 per cent. of all drivers and were implicated in 5.7 per cent. of all accidents.

There were twenty-four drivers in two accidents each during the last four months of 1930, making a total of 351 persons listed as accident repeaters to date.

During 1931 there were 666,266 drivers licensed to drive.* Drivers involved in reportable accidents comprised 2.0 per cent. of the total.

TABLE No. 22—CONDITION OF DRIVERS INVOLVED

	Total		Fatal		Personal Injury		Property Damage Only	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Intoxicated...........	137	1.0	13	2.1	70	.9	54	1.2
Physical defect........	13	.1	.....	.....	6	.1	7	.2
Extreme fatigue........	49	.4	4	.7	31	.4	14	.3
Normal...............	13,137	98.5	597	97.2	8,121	98.6	4,419	98.3
Total............	13,336	100.0	614	100.0	8,228	100.0	4,494	100.0

The fact that the condition of 98.5 per cent. of the drivers involved was reported as normal at the time of the accident suggests that accident causes are in the great majority of cases mental rather than physical.

As regards the number of intoxicated drivers, the total as shown undoubtedly requires some qualification since the difficulty in proving a driver to be under the influence of liquor and his unreadiness to admit failure to comply with the law in this respect, make correct factual knowledge impossible. Those classified here as intoxicated are those involved who were charged with, or convicted of driving while under the influence of liquor.

The need for sobriety when operating a vehicle cannot be too strongly emphasized. Drinking, even in small quantities, impedes prompt action and efficient thinking when an emergency arises.

The danger of driving while fatigued is indicated by the fact that drivers in this condition comprising .4 per cent. of all those reported, comprised .7 per cent. of the drivers involved in fatal accidents.

Many firms, recognizing the hazard of mental and physical fatigue, limit the daily mileage of drivers and the hours which they may work. The number of accidents would be considerably reduced if private drivers would place themselves under similar restriction.

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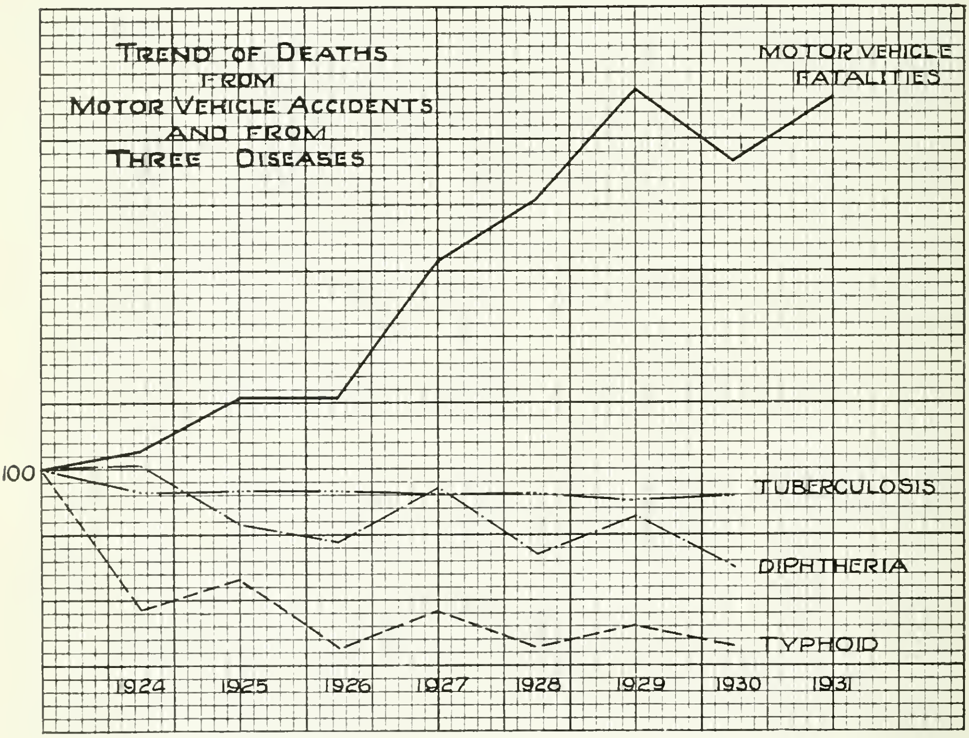
* 38,090 Instruction Permits not included.

TABLE No. 23—ANNUAL MOTOR VEHICLE FATALITIES

1923	236
1924	254
1925	298
1926	298
1927	422
1928	477
1929	576
1930	522
1931	571
Total	3,654

The above table shows the annual and total number of deaths in Ontario by motor vehicles since 1923.

*Fatalities for 1931 (571) show an increase of 142 per cent. over the 1923 total and almost equal the total number of motor vehicle deaths in Canada for the year 1926.** There has been an increase of 428.7 per cent. in motor vehicle fatalities in the past eleven years, the death rate per hundred thousand during the same period rising from 3.7 in 1921 to 16.9 in 1931.



The above figure graphically illustrates the seriousness of motor vehicle accidents. It can be seen that efforts to reduce deaths from tuberculosis, typhoid fever and diptheria by scientific methods have been rewarded slowly but definitely over a period of years. Motor vehicle fatalities, on the other hand, show a tremendous (142 per cent.) increase during the same period.

While it is not possible to predict accurately the future trend of deaths from motor vehicle accidents, it is probably unreasonable to expect any sudden decrease. However, the growing appreciation of the vital importance of making highway travel safer through the removal of physical hazards and stricter regulation of individual conduct, which is strengthened by every fatality, inspires the hope that accidents will gradually decrease in number and in seriousness.

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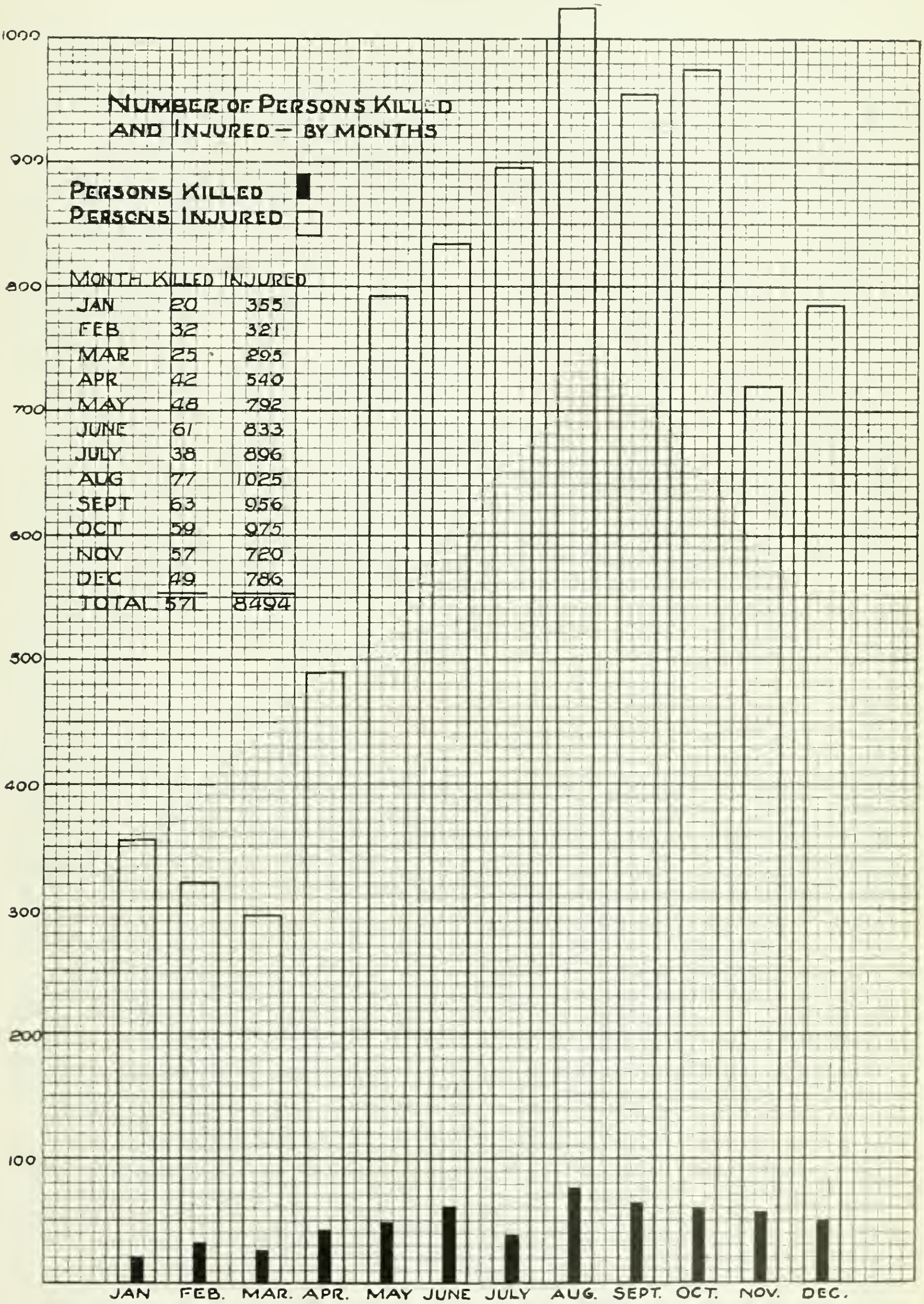
*As 1931 was the first of official compilation, figures prior to that year must be considered of unofficial origin.
**Motor vehicle fatalities in Canada, 1926,—606.



NUMBER OF PERSONS KILLED AND INJURED — BY MONTHS

MONTH	KILLED	INJURED
JAN	20	355
FEB	32	321
MAR	25	295
APR	42	540
MAY	48	792
JUNE	61	833
JULY	38	896
AUG	77	1025
SEPT	63	956
OCT	59	975
NOV	57	720
DEC	49	786
TOTAL	571	8494

TABLE No. 24—NUMBER OF MOTOR VEHICLE FATALITIES BY TYPE OF ACCIDENT AND BY AGE GROUPS

	All Ages		0–4		5–14		15–54		55 and Over		Not Stated	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Collision with:												
Pedestrian...	255	44.7	28	93.4	60	81.1	64	22.6	94	62.7	9	26.5
Other motor vehicle.....	73	12.8	1	3.3	6	8.2	38	13.4	20	13.3	8	23.6
Horsedrawn vehicle.....	11	1.9	....	......	1	1.3	6	2.1	3	2.0	1	2.9
Railroad train	62	10.9	....	......	1	1.3	43	15.2	15	10.0	3	8.8
Street car....	12	2.1	....	......	1	1.3	7	2.5	1	.7	3	8.8
Other vehicles	....	......	....	......	....	......	....	......	....	......	....	......
Fixed object..	41	7.2	....	......	1	1.3	32	11.3	5	3.3	3	8.8
Bicycle......	18	3.1	....	......	4	5.5	12	4.2	2	1.3	....	......
Motorcycle...	10	1.8	....	......	....	......	10	3.5	....	......	....	......
Non-collision.	83	14.5	1	3.3	....	......	66	23.4	10	6.7	6	17.7
Miscellaneous	6	1.0	....	......	....	......	5	1.8	....	......	1	2.9
Total....	571	100.0	30	100.0	74	100.0	283	100.0	150	100.0	34	100.0

NUMBER OF MOTOR VEHICLE FATALITIES BY AGE GROUPS OF VICTIMS

Total	Ages 0–4	Per cent.	Ages 5–14	Per cent.	Ages 15–54	Per cent.	Ages 55 and Over	Per cent.	Not Stated	Per cent.
571......	30	5.3	74	13.0	283	49.5	150	26.3	34	5.9

Pedestrian fatalities accounted for 44.7 per cent. of the total and their injuries led to death in more than twice as many cases as those sustained by motor vehicle drivers.

Figures for the year show that the chance of death is greater among pedestrians than among all other classifications—victims of railroad accidents excepted. Of every hundred pedestrians sustaining injuries, eight died. Of every hundred persons, other than pedestrians, injured, five died. Of every hundred of all classifications injured, six died.

Of every 100 persons injured, in the age group:

0–4 years	6 died
5–14 years	5 died
15–54 years	6 died
55 years and over	15 died

The chance of death of the oldest victims is seen to be much greater.

The distribution by number and percentage of all fatalities and of pedestrian fatalities, by age class, was as follows:

Age Class	All Fatalities		Pedestrian Fatalities	
	No.	Per cent.	No.	Per cent. of Total in Age Group
0–4...................	30	5.3	28	93.3
5–14...................	74	13.0	60	81.1
15–54...................	283	49.5	64	22.6
55 and over..............	150	26.3	94	62.7
Not stated..............	34	5.9	9	26.5
Total...........	571	100.0	255 (44.7%)	

Children sustaining fatal injuries were largely pedestrians. In the age group 0–4 years, 93.3 per cent. of the fatalities were pedestrians; in the group 5–14 years the percentage is shown as 81.1 per cent. Almost 63 per cent. of the persons, fifty-five years of age and over, fatally injured were pedestrians.

Of the persons killed, 77.1 per cent. were male; 22.9 per cent. were female.

There were eighteen bicyclists killed, comprising 3.1 per cent. of the total fatalities.

That the average motorist's realization of the distinct hazard presented by the bicyclist makes him drive more carefully is a fact borne out by a study made of accidents in Toronto during the past year. The fatality rate for pedestrians was 1.1 per ten thousand of population, while the rate for bicyclists, based upon bicycle license figures, was about .85 per ten thousand.

If the motorist were as aware of the latent danger which every pedestrian represents as he is of the bicycle hazard, a considerable reduction in the pedestrian death rate would certainly result.

TABLE No. 25—CLASSIFICATION OF VICTIMS OF FATAL ACCIDENTS

Motor vehicle drivers	122
Motor vehicle passengers	152
Pedestrians	255
Motorcycle drivers	15
Motorcycle passengers	5
Bicyclists	18
Others (persons in horsedrawn vehicles, etc.)	4
Total	571

It will be observed that more passengers than drivers were killed during 1931. This can scarcely mean that the position of the driver is less hazardous than that of his passengers, though in certain cases the steering wheel and column may afford him some extra protection; but is due more likely to the fact that more passengers were exposed to the hazard, as very often an accident involving only one car and driver will cause injury to several passengers.

As to motorcycle drivers and passengers, it may be pointed out that the fatality rate per thousand registrations is greater than for any other type of motor vehicle.

TABLE No. 26—NUMBER OF INJURED BY TYPE OF ACCIDENT AND BY AGE GROUP

	All Ages		0–4		5–14		15–54		55 and Over		Not Stated	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Collision with:												
Pedestrian	2,880	33.9	368	76.2	1,004	74.7	826	19.2	368	44.8	314	20.4
Other motor vehicle	3,071	36.2	94	19.5	152	11.3	1,824	42.4	282	34.3	719	46.8
Horsedrawn vehicle	201	2.4	3	.6	8	.5	109	2.5	22	2.7	59	3.9
Railroad train	153	1.8	2	.4	12	.9	90	2.1	13	1.6	36	2.3
Street car	140	1.7	5	1.0	7	.5	91	2.1	12	1.5	25	1.6
Other vehicles	11	.1	.....	......	.....	......	5	.1	.....	......	6	.4
Fixed object	488	5.7	4	.8	19	1.4	321	7.5	35	4.2	109	7.1
Bicycle	448	5.3	.....	......	106	7.9	269	6.2	22	2.7	51	3.3
Motorcycle	207	2.4	.....	......	2	.2	174	4.0	.....	......	31	2.0
Non-collision	876	10.3	7	1.5	32	2.4	587	13.6	66	8.0	184	12.0
Miscellaneous	19	.2	.....	......	2	.2	12	.3	2	.2	3	.2
Total	8,494	100.0	483	100.0	1,344	100.0	4,308	100.0	822	100.0	1,537	100.0

NUMBER OF PERSONS INJURED BY AGE GROUP

Total	Ages 0–4	Per cent.	Ages 5–14	Per cent.	Ages 15–54	Per cent.	Ages 55 and Over	Per cent.	Not Stated	Per cent.
8,494	482	5.7	1,344	15.8	4,308	50.7	822	9.7	1,537	18.1

The number of persons injured in the various types of accidents shows considerable variation from the percentages in the Fatal accidents. The percentage of victims of collisions with other motor vehicles is three times as great as in Fatal accidents where pedestrians represented only 33.7 per cent. of the injured and almost 45 per cent. of those killed.

The tragic results of railroad accidents are again to be seen in the fact that while the victims of such collisions represent 10.9 per cent. of those killed, those injured comprised only 1.8 per cent. of the total injured.

Of the persons injured 62.1 per cent. were male; 37.9 per cent. female.

TABLE No. 27—NATURE OF INJURIES SUSTAINED IN FATAL AND NON-FATAL ACCIDENTS

	Fatal		Injured	
	No.	Per cent.	No.	Per cent.
Fractured skull	245	42.9	177	2.1
Fractured spine	30	5.3	11	.1
Other fractures	36	6.3	1,221	14.4
Concussion of the brain	27	4.7	135	1.6
Severe general shock with bruises and cuts	26	4.6	2,264	26.7
Slight shock and shake-up	....	....	1,948	22.9
Internal injuries	111	19.4	233	2.7
Other injuries (sprains, dislocations, wrenches, etc.)	11	1.9	789	9.3
Cuts by glass only	7	1.2	1,486	17.5
Not stated	78	13.7	230	2.7
Total	571	100.0	8,494	100.0

The nature of injuries has been somewhat difficult to classify since a victim may have died or suffered from several types of injury. For statistical purposes, that injury which appeared to be the major one was tabulated.

The lack of proper classification explains the fact that such a large number were listed as "Not Stated."

About two out of every five deaths were the result of fractured skull, and about one in five persons died from internal injuries. About one, of every six persons non-fatally injured, sustained cuts from glass only.

The additional costliness of accidents, beyond the property damage resulting, is suggested by the fact that about 50 per cent. of the non-fatal injuries might be termed serious, some victims being permanently disabled, others rendered temporarily unfit for employment, and practically all burdened by medical and hospital expense.

PROPERTY DAMAGE

The estimated property damage reported totalled $1,094,039, but this by no means represents the monetary and economic loss sustained by the victims of motor vehicle accidents. No account is taken in these figures of accidents, and they are frequent, resulting in less than $50.00 damage, or of the cost of medical attention to injured parties. Nor is any allowance made for the economic loss involved in persons incapacitated for long periods and frequently permanently disabled.

During 1931, insurance companies in Ontario paid about four and a half million dollars in motor vehicle accident claims, and even this sum does not present a true estimate of the total, since our figures indicate that less than half of the motorists involved carry insurance.

MISCELLANEOUS FACTS

Province of Ontario:

Area, 407,262 square miles. Second largest province in the Dominion.

Population (1931), 3,426,488. Largest population of any province in Canada.

Motor vehicles registered, 572,214; one vehicle per 5.9 persons.

Drivers licensed, 666,266.*

Gasoline consumption (1931), 246,817,692 imperial gallons, 296,181,230 gallons (United States standard). Estimated total mileage, 3,554,174,765. Average mileage per vehicle, 6,211 (basis, 14.4 miles per imperial gallon; 12 miles per United States gallon).

Motor vehicle fatalities, 571; .999 per 1,000 registrations; 2.31 per million imperial gallons of gasoline consumed; 16.9 per 100,000 population.

Motor vehicle accidents, 9,241. Accidents per 1,000 vehicles registered, 16.15; 37.44 per million gallons of gasoline consumed.

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*38,090 Instruction Permits not included.

ELEVENTH
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OF THE
MINIMUM WAGE BOARD
1931

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1932

TO THE RIGHT HONOURABLE THE ADMINISTRATOR TO
THE GOVERNMENT OF THE PROVINCE OF ONTARIO

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present to Your Honour the Eleventh Annual Report of the Minimum Wage Board of Ontario for the year 1931.

Respectfully submitted,

J. D. MONTEITH,
Minister of Public Works and Labour.

THE HONOURABLE J. D. MONTEITH,
Minister of Labour,
Parliament Buildings, Toronto.

SIR:—I have the honour to submit herewith the Eleventh Annual Report of the Minimum Wage Board.

Yours faithfully,
J. W. MACMILLAN,
Chairman.

ANNUAL REPORT

MINIMUM WAGE BOARD

The Minimum Wage Board has been operating during 1931 in the shadow of the depression. The women who work have suffered severely. Yet the picture is not so black as it might have been. One reason is the well-known fact that the women's trades are more regular in employment than the men's trades. Another reason lies in the underpinning given by the orders of this Board. From the first the minimum rates were set at modest levels, and were not raised during periods of temporary expansion. Consequently there has been no general demand that they be lowered during the present depression.

The statistics gathered yearly tell in detail the story. We may take the factory workers as a definite and considerable portion of the whole body of women workers.

The figures are:

Female factory workers in 1926	43,242
" " " 1927	45,416
" " " 1928	50,118
" " " 1929	53,461
" " " 1930	50,069
" " " 1931	47,086

Moreover, it should be remembered that very many of those whose names remain on the pay rolls have recently been working short time. Thus the total volume of unemployment is increased and earnings are reduced correspondingly.

If we take the number of girls under 18 for the past three years, we have:

Young girls in 1929	7,723
" " 1930	5,122
" " 1931	3,511

Thus there are the following decreases in employment:

	From 1929 to 1930	From 1929 to 1931
All female workers	6.7%	11.9%
Young girls	31.6%	54.5%

It will be seen that the young girls were 14.5 per cent. of all the female workers in 1929, 10 per cent. in 1930, and only 7.4 per cent. in 1931.

There is comfort here, for it shows that the older and higher paid workers have not been let out and replaced by younger and cheaper workers. Moreover, fewer of the young girls are away from home and the suffering is less than if an equal number of independent working women had been let out.

There has been no noticeable change as respects the employment of married women. There has been no general movement either to replace them by single women or the reverse.

The rates of wages are lower on the whole. Of 42 sections and trades in the Province these rates have gone up in 12 and down in 30. In no case is the difference large.

The numbers of factories employing women remains unchanged at 2,211. It will be seen that the average female working force numbers 21.3.

The Board feels that any considerable and permanent reduction of the costs of living of working women would involve a scaling down of the minimum wage rates. It is testing the figures in its budget monthly. Thus it has found that the reductions in the necessary expenses of a woman worker are not like the big drops in raw materials, or even in wholesale prices. Careful tests have shown little change in the price of board, which is the biggest item. Nor are car fare, laundry and other items in sundries less. Clothing is somewhat lower in price. As the winter passes the Board is watching the situation closely, prepared to take such action as may be shown to be wise in view of the purpose of the law and the interests of the workers, as well as the employers.

COST OF LIVING BUDGET

The budget for an independent working woman in Toronto, as revised in October, 1931, representing the lowest wage upon which she can support herself, is as follows:

Item		Cost per year
Board and lodging at $7.00 per week		$364 00
CLOTHING:		
Footwear and repairs, 3 pairs $5.00, $4.00, $4.00; bedroom slippers, 80c., rubbers, 50c., goloshes, $1.50; repairs, $2.00	$17 80	
Stockings	7 50	
Underwear	8 00	
Nightgowns	4 00	
Costume slips	3 50	
Corsets and brassieres	5 50	
Kimona (two years)	1 00	
Hats	9 00	
Suit (half cost to wear two years) or skirt (one year, $5.00) and light coat (two years, $12.50)	11 25	
Winter coat to wear two years	8 25	
Winter dresses	10 00	
Summer dresses, two or three	10 00	
Blouses	7 50	
Sweater (two years)	2 00	
Aprons	2 50	
Handkerchiefs	1 50	
Gloves	3 50	
Scarf	1 00	
Umbrella, to last two years	1 25	
Total expense for clothing		$115 05
SUNDRIES:		
Laundry	$39 00	
Doctor, dentist, optician	20 00	
Car fare	48 00	
Reading matter	6 00	
Postage and stationery	5 00	
Recreation and amusement	23 00	
Church and charity	10 00	
Incidentals, including tooth brush, comb, soap, toothpaste, talcum powder, nail file, shoe polish, hand lotion, pins, needles, thread, whisk, shoe laces, etc	20 00	
Total expense for sundries		$171 00
Total expenses for year		$650 00
Board and lodging per week	$7 00	
Clothing per week	2 21	
Sundries per week	3 29	
Total per week		$12 50

COMPARATIVE STATISTICS

In the following tables are summarized the reports from 6,219 establishments, employing 67,049 women and girls. The parallel columns show the years 1929 and 1931, which represent the extreme of the period of expansion as against the picture presented two years later.

ORDER NO. 31

This order deals with laundries, dye-works and dry-cleaning establishments. It incorporates and supersedes Orders 1, 4 and 5.

In the City of Toronto:

	1929	1931
Number of firms reporting	51	79
Total number of female employees	1,736	1,696
Over 18 years	1,573	1,561
Under 18 years	163	135
Total weekly wages	$23,478 63	$22,750 67
Over 18 years	21,504 74	21,310 55
Under 18 years	1,973 89	1,440 12
Average weekly wage	13 52	13 42
Over 18 years	13 66	13 65
Under 18 years	12 11	10 65
Percentage of young girls under 18 years	9.3	8.
Percentage of married women	31.5	31.
Average hours worked per week	46.1	46.8

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	1
8– 9	1	2
9–10	30	45
10–11	106	66
11–12	99	72
12–13	710	757
13–14	250	281
14–15	148	136
15–16	138	130
16–18	88	102
18–20	56	37
20–22	61	30
22–up	49	37
Total	1,736	1,696

In cities of more than 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	48	57
Total number of female employees	669	688
Over 18 years	615	653
Under 18 years	54	35
Total weekly wages	$8,655 40	$9,564 15
Over 18 years	8,142 65	9,253 48
Under 18 years	512 75	310 67
Average weekly wages	12 93	13 90
Over 18 years	13 39	14 17
Under 18 years	9 49	9 22
Percentage of young girls under 18	8.0	5.0
Percentage of married women	27.9	27.9
Average hours worked per week	48.3	48.0

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	9	9
8– 9	11	10
9–10	10	5
10–11	57	36
11–12	46	24
12–13	261	346
13–14	101	78
14–15	45	62
15–16	44	42
16–18	27	27
18–20	18	23
20–22	19	13
22–up	21	13
Total	669	688

In places under 30,000 population:

	1929	1931
Number of firms reporting	61	74
Total number of female employees	618	572
Over 18 years	532	515
Under 18 years	86	57
Total weekly wages	$7,269 01	$7,058 04
Over 18 years	6,358 00	6,516 47
Under 18 years	911 61	541 57
Average weekly wages	11 76	12 34
Over 18 years	11 95	12 65
Under 18 years	10 60	9 50
Percentage of young girls under 18	13.9	9.9
Percentage of married women	23.9	12.4
Average hours worked per week	50	48.3

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	17	7
8– 9	21	13
9–10	87	36
10–11	71	58
11–12	172	207
12–13	115	107
13–14	46	24
14–15	23	42
15–16	29	28
16–18	12	17
18–20	12	13
20–22	11	13
22–up	2	7
Total	618	572

Orders Nos. 3, 6, 10, 29—Retail Stores

These govern saleswomen in retail stores. The leading chain store systems are included as well as a number of typical stores individually operated. It is a practical impossibility to gather returns from all the retail stores, so the endeavour is made to present a picture which may be taken as generally showing the situation and trend in the several parts of the Province.

Recent developments in retail stores have led to considerable numbers of employees working for short periods, such as on Saturday afternoons or in the Christmas season. These are not included in the following tables.

ORDER NO. 3

In the City of Toronto:

	1929	1931
Number of stores reporting	179	286
Total number of female employees	1,357	1,492
Over 18 years	1,245	1,352
Under 18 years	112	140
Total weekly wages	$21,614 17	$22,825 84
Over 18 years	20,285 17	21,174 78
Under 18 years	1,329 00	1,651 06
Average weekly wages	15 93	15 30
Over 18 years	16 30	15 66
Under 18 years	10 97	11 79
Percentage of young girls under 18	6.3	9.3
Percentage of married women	16.5	16.08
Average hours worked per week	48.7	49.1

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	4
8– 9	1	4
9–10	4	....
10–11	25	34
11–12	29	60
12–13	271	347
13–14	104	127
14–15	153	198
15–16	216	211
16–18	192	198
18–20	174	154
20–22	88	71
22–up	100	84
Total	1,357	1,492

ORDER NO. 6

In cities of 30,000 population or over, excepting Toronto:

	1929	1931
Number of stores reporting	103	221
Total number of female employees	1,909	2,619
Over 18 years	1,775	2,511
Under 18 years	134	108
Total weekly wages	$26,919 50	$37,011 94
Over 18 years	25,555 50	35,899 75
Under 18 years	1,364 00	1,112 19
Average weekly wage	13 81	14 13
Over 18 years	14 09	14 30
Under 18 years	10 33	10 29
Percentage of young girls under 18	8.2	4.1
Percentage of married women	3.9	16.2
Average hours worked per week	48.0	49.5

Weekly rate of wages:		
Under $7 00	....	....
7– 8	....	....
8– 9	22	33
9–10	26	29
10–11	174	111
11–12	73	88
12–13	613	994
13–14	182	261
14–15	160	295
15–16	238	296
16–18	146	193
18–20	85	109
20–22	68	80
22–up	122	130
Total	1,909	2,619

ORDER NO. 10

In towns and cities of from 5,000 to 30,000 population:

	1929	1931
Number of stores reporting	183	259
Total number of female employees	2,078	2,143
Over 18 years	1,818	2,051
Under 18 years	260	92
Total weekly wages	$26,693 40	$26.805 05
Over 18 years	24,249 90	25,895 90
Under 18 years	2,443 50	909 15
Average weekly wages	12 59	12 51
Over 18 years	13 01	12 63
Under 18 years	9 42	9 88
Percentage of young girls under 18	13.5	4.28
Percentage of married women	6.5	8.3
Average hours worked per week	48.5	49.8

Weekly rate of wages:	1929	1931
Under $7 00	2	....
7– 8	18	9
8– 9	61	13
9–10	235	108
10–11	294	302
11–12	347	505
12–13	350	441
13–14	100	155
14–15	113	151
15–16	170	145
16–18	167	142
18–20	85	72
20–22	45	43
22–up	91	57
Total	2,078	2,143

In places under 5,000 population:

	1929	1931
Number of stores reporting	101	169
Total number of female employees	437	524
Over 18 years	389	491
Under 18 years	48	33
Total weekly wages	$5,058 75	$5,979 30
Over 18 years	4,616 25	5,662 30
Under 18 years	442 50	317 00
Average weekly wages	11 68	11 41
Over 18 years	11 96	11 53
Under 18 years	8 94	9 61
Percentage of young girls under 18	9.8	6.3
Percentage of married women	8.5	6.8
Average hours worked per week	48.7	51.2

Weekly rate of wages:	1929	1931
Under $7 00	5	2
7– 8	4	7
8– 9	34	27
9–10	55	77
10–11	107	155
11–12	52	44
12–13	70	81
13–14	23	40
14–15	27	30
15–16	22	29
16–18	12	12
18–20	12	9
20–22	9	4
22–up	5	7
Total	437	524

ORDER NO. 29

This order governs departmental stores in Toronto having more than 150 employees. It covers saleswomen and the mail order employees, but not the restaurant or operative employees.

	1929	1931
Number of firms reporting	2	2
Total number of female employees	4,916	3,850
Over 18 years	4,300	3,565
Under 18 years	616	285
Total weekly wages	$74,410 00	$60,556 80
Over 18 years	68,363 00	57,876 80
Under 18 years	6,047 00	2,680 00
Average weekly wages	15 14	15 73
Over 18 years	15 90	16 23
Under 18 years	9 81	9 40
Percentage of young girls under 18	12.5	7.4
Percentage of married women	24.5	21.1
Average hours worked per week	48.0	48.0

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	4	....
8– 9	412	45
9–10	281	68
10–11	178	87
11–12	94	68
12–13	333	579
13–14	623	684
14–15	504	463
15–16	641	311
16–18	736	767
18–20	447	384
20–22	249	146
22–up	414	248
Total	4,916	3,850

Orders 13 to 39 govern the factory trades. The two columns present an accurate comparison between the two years 1929 and 1931, except that in Orders 17 and 18 custom tailoring is included only in the 1931 summary.

ORDERS NOS. 13, 14, 15, 16—THE TEXTILE TRADES

These are the factories engaged in knitting, weaving and spinning operations.

ORDER NO. 13

In the City of Toronto:

	1929	1931
Number of firms reporting	43	47
Total number of female employees	2,835	2,887
Over 18 years	2,552	2,711
Under 18 years	283	176
Total weekly wages	$40,264 55	$43,419 68
Over 18 years	37,144 42	41,646 65
Under 18 years	3,120 13	1,773 03
Average weekly wages	14 20	15 04
Over 18 years	14 56	15 36
Under 18 years	11 03	10 07
Percentage of young girls under 18	9.9	6.09
Percentage of married women	25.3	25.0
Average hours worked per week	46.2	45.3

Weekly rate of wages:	1929	1931
Under $7 00	1	5
7– 8	6	3
8– 9	93	64
9–10	101	35
10–11	207	125
11–12	180	110
12–13	490	408
13–14	294	497
14–15	341	363
15–16	261	306
16–18	385	477
18–20	277	277
20–22	130	131
22–up	69	86
Total	2,835	2,887

ORDER NO. 14

In cities of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	27	25
Total number of female employees	4,273	3,603
Over 18 years	3,819	3,385
Under 18 years	454	218
Total weekly wages	$63,613 03	$56,222 53
Over 18 years	58,394 06	53,622 30
Under 18 years	5,218 97	2,600 23
Average weekly wages	14 89	15 60
Over 18 years	15 29	15 84
Under 18 years	11 50	11 93
Percentage of young girls under 18	10.6	6.05
Percentage of married women	19.3	19.5
Average hours worked per week	48.7	48.1

Weekly rate of wages:	1929	1931
$7 00 Under	....	1
7– 8	5	....
8– 9	99	57
9–10	207	87
10–11	256	118
11–12	412	225
12–13	398	424
13–14	481	337
14–15	308	270
15–16	353	350
16–18	1,117	953
18–20	328	391
20–22	165	231
22–up	144	159
Total	4,273	3,603

ORDER NO. 15

Textile factories in cities and towns of from 5,000 to 30,000 population:

	1929	1931
Number of firms reporting	67	64
Total number of female employees	6,245	5,048
Over 18 years	4,912	4,402
Under 18 years	1,333	646
Total weekly wages	$82,486 56	$67,788 77
Over 18 years	68,746 57	61,001 88
Under 18 years	13,739 99	6,786 88
Average weekly wages	13 21	13 43
Over 18 years	14 00	13 86
Under 18 years	10 31	10 51
Percentage of young girls under 18	21.3	12.7
Percentage of married women	19.6	20.2
Average hours worked per week	50.3	50.7

Weekly rate of wages:	1929	1931
Under $7 ·00	10	18
7– 8	160	78
8– 9	311	164
9–10	527	349
10–11	685	397
11–12	753	920
12–13	971	597
13–14	849	777
14–15	464	378
15–16	387	312
16–18	590	544
18–20	245	296
20–22	119	105
22–up	174	113
Total	6,245	5,048

ORDER NO. 16

Textile factories in places having less than 5,000 urban population:

	1929	1931
Number of firms reporting	62	59
Total number of female employees	2,577	2,516
Over 18 years	2,136	2,174
Under 18 years	441	342
Total weekly wages	$32,767 58	$31,820 94
Over 18 years	28,550 24	28,483 49
Under 18 years	4,217 34	3,337 45
Average weekly wages	12 72	12 65
Over 18 years	13 37	13 10
Under 18 years	9 56	9 76
Percentage of young girls under 18	17.1	13.6
Percentage of married women	22.3	23.8
Average hours worked per week	51.4	51.2

Weekly rate of wages:	1929	1931
Under $7 00	25	16
7– 8	48	64
8– 9	183	174
9–10	307	223
10–11	384	455
11–12	346	353
12–13	264	468
13–14	247	185
14–15	358	141
15–16	125	115
16–18	148	149
18–20	74	89
20–22	36	58
22–up	32	26
Total	2,577	2,516

ORDERS NOS. 17, 18, 19, 20

The Needle Trades

These are the factories whose chief implement is the sewing machine:

ORDER No. 17

In the City of Toronto:

	1929	1931
Number of firms reporting	465	461
Total number of female employees	9,663	8,508
Over 18 years	9,064	8,243
Under 18 years	599	265
Total weekly wages	$151,899 02	$128,006 54
Over 18 years	145,726 98	125,354 63
Under 18 years	6,172 04	2,651 91
Average weekly wages	15 72	15 05
Over 18 years	16 08	15 21
Under 18 years	10 30	10 01
Percentage of young girls under 18	6.19	3.1
Percentage of married women	22.8	25.
Average hours worked per week	44.1	43.4

Weekly rate of wages:	1929	1931
Under $7 00	14	29
7– 8	43	73
8– 9	239	198
9–10	222	184
10–11	472	373
11–12	526	428
12–13	1,750	1,818
13–14	1,031	1,026
14–15	610	596
15–16	875	660
16–18	1,183	953
18–20	875	715
20–22	596	495
22–up	1,227	960
Total	9,663	8,508

ORDER No. 18

Needle trade factories in cities of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	83	87
Total number of female employees	978	755
Over 18 years	910	736
Under 18 years	68	19
Total weekly wages	$14,265 40	$10,718 49
Over 18 years	13,561 82	10,535 72
Under 18 years	703 58	182 77
Average weekly wages	14 59	14 20
Over 18 years	14 90	14 31
Under 18 years	10 35	9 62
Percentage of young girls under 18	6.9	2.5
Percentage of married women	32.6	33.1
Average hours worked per week	46.4	45.9

Weekly rate of wages:	1929	1931
Under $7 00	..	3
7– 8	6	4
8– 9	38	22
9–10	70	48
10–11	58	59
11–12	125	152
12–13	121	79
13–14	99	48
14–15	76	66
15–16	81	64
16–18	101	71
18–20	76	70
20–22	45	24
22–up	82	45
Total	978	755

ORDER NO. 19

Needle trade factories in cities and towns of from 5,000 to 30,000 population:

	1929	1931
Number of firms reporting	58	56
Total number of female employees	1,965	1,651
Over 18 years	1,778	1,577
Under 18 years	187	74
Total weekly wages	$27,381 93	$22,139 86
Over 18 years	25,478 83	21,426 38
Under 18 years	1,903 10	713 38
Average weekly wages	13 93	13 41
Over 18 years	14 33	13 59
Under 18 years	10 18	9 64
Percentage of young girls under 18	9.5	4.48
Percentage of married women	17.6	21.07
Average hours worked per week	46.9	45.

Weekly rate of wages:	1929	1931
Under $7 00	7	23
7– 8	44	33
8– 9	59	75
9–10	168	102
10–11	179	145
11–12	209	249
12–13	246	276
13–14	180	186
14–15	157	107
15–16	171	131
16–18	224	129
18–20	167	75
20–22	72	50
22–up	82	70
Total	1,965	1,651

ORDER NO. 20

Needle trade factories in places having less than 5,000 urban population:

	1929	1931
Number of firms reporting	23	22
Total number of female employees	258	245
Over 18 years	231	229
Under 18 years	27	16
Total weekly wages	$3,610 59	$3,077 31
Over 18 years	3,378 43	2,955 59
Under 18 years	232 16	121 72
Percentage of young girls under 18	10.4	6.5
Percentage of married women	31.7	23.2
Average hours worked per week	47.1	45.5

Weekly rate of wages:	1929	1931
Under $7 00	3	7
7– 8	11	13
8– 9	25	20
9–10	19	17
10–11	34	47
11–12	28	42
12–13	37	22
13–14	15	7
14–15	11	12
15–16	16	10
16–18	15	18
18–20	4	16
20–22	2	5
22–up	38	9
Total	258	245

ORDERS NOS. 21, 22, 23, 24

These govern wages in the following trades: Drugs, chemicals, pharmaceutical or toilet preparations, dyes, inks, shoe blacking or polish, mucilage, medicines, non-corrosive acids and non-hazardous chemicals or chemical preparations.

ORDER NO. 21

In the City of Toronto:

	1929	1931
Number of firms reporting	83	73
Total number of female employees	845	799
Over 18 years	741	729
Under 18 years	104	70
Total weekly wages	$12,607 92	$11,363 51
Over 18 years	11,485 91	10,624 04
Under 18 years	1,122 01	739 47
Average weekly wages	14 92	14 22
Over 18 years	15 50	14 57
Under 18 years	10 79	10 56
Percentage of young girls under 18	12.3	8.76
Percentage of married women	15.9	14.7
Average hours worked per week	43.9	45.

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	1	....
8– 9	15	12
9–10	26	17
10–11	62	37
11–12	45	31
12–13	158	191
13–14	85	118
14–15	104	78
15–16	88	81
16–18	128	96
18–20	40	45
20–22	30	35
22–up	63	58
Total	845	799

ORDER NO. 22

In cities of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	26	26
Total number of female employees	248	220
Over 18 years	214	208
Under 18 years	34	12
Total weekly wages	$3,494 75	$3,153 36
Over 18 years	3,125 45	3,034 12
Under 18 years	369 30	119 24
Average weekly wages	14 09	14 33
Over 18 years	14 60	14 59
Under 18 years	10 86	9 94
Percentage of young girls under 18	13.7	5.4
Percentage of married women	14.1	11.3
Average hours worked per week	44.3	44.07

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	....
8– 9	2	....
9–10	20	15
10–11	27	15
11–12	36	38
12–13	43	37
13–14	21	22
14–15	22	23
15–16	17	16
16–18	22	17
18–20	12	16
20–22	9	2
22–up	17	19
Total	248	220

ORDER NO. 23

In cities and towns of from 5,000 to 30,000 population:

	1929	1931
Number of firms reporting	12	14
Total number of female employees	154	145
Over 18 years	147	138
Under 18 years	7	7
Total weekly wages	$2,591 10	$2,287 45
Over 18 years	2,518 77	2,228 20
Under 18 years	72 33	59 25
Average weekly wages	16 83	15 78
Over 18 years	17 13	16 15
Under 18 years	10 33	8 46
Percentage of young girls under 18	4.5	4.8
Percentage of married women	6.4	3.4
Average hours worked per week	43.7	45.2

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	2
8– 9	2	3
9–10	....	5
10–11	5	5
11–12	24	15
12–13	10	14
13–14	11	9
14–15	7	5
15–16	13	22
16–18	32	34
18–20	16	12
20–22	10	7
22–up	24	12
Total	154	145

ORDER NO. 24

In places having less than 5,000 urban population:

	1929	1931
Number of firms reporting	13	14
Total number of female employees	138	151
Over 18 years	132	142
Under 18 years	6	9
Total weekly wages	$1,720 95	$1,774 78
Over 18 years	1,663 20	1,708 74
Under 18 years	57 75	66 04
Average weekly wages	12 47	11 75
Over 18 years	12 60	12 03
Under 18 years	9 63	7 34
Percentage of young girls under 18	4.3	5.9
Percentage of married women	12.3	9.9
Average hours worked per week	47.	44.6

Weekly rate of wages:	1929	1931
Under $7 00	....	7
7– 8	....	3
8– 9	20	....
9–10	5	13
10–11	31	49
11–12	17	26
12–13	21	13
13–14	12	12
14–15	3	7
15–16	8	3
16–18	5	8
18–20	3	3
20–22	4	5
22–up	9	2
Total	138	151

Order No. 28

These are the factories engaged in the boot and shoe and other leather grades:

In the City of Toronto:

	1929	1931
Number of firms reporting	41	34
Total number of female employees	702	578
Over 18 years	580	518
Under 18 years	122	60
Total weekly wages	$10,519 31	$8,414 31
Over 18 years	9,404 87	7,879 37
Under 18 years	1,114 44	534 94
Average weekly wage	14 98	14 56
Over 18 years	16 20	15 22
Under 18 years	9.15	8.91
Percentage of young girls under 18	17.3	10.
Percentage of married women	24.5	25.
Average hours worked per week	44.9	44.8

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	3
8– 9	63	26
9–10	24	27
10–11	59	39
11–12	24	25
12–13	87	116
13–14	43	36
14–15	64	49
15–16	59	58
16–18	85	63
18–20	91	70
20–22	60	38
22–up	43	28
Total	702	578

The same trades in cities over 30,000, excepting Toronto:

	1929	1931
Number of firms reporting	11	7
Total number of female employees	212	161
Over 18 years of age	188	156
Under 18 years	24	6
Total weekly wages	$3,396 83	$2,554 78
Over 18 years	3,175 89	2,491 76
Under 18 years	220 94	63 02
Average weekly wages	16 02	15 87
Over 18 years	16 89	15 99
Under 18 years	9 20	10 50
Percentage of young girls under 18	8.8	3.7
Percentage of married women	24.	27.9
Average hours worked per week	47.5	47.9

Weekly rate of wages:	1929	1931
Under $7 00	1	....
7– 8	1	....
8– 9	2	5
9–10	28	4
10–11	12	7
11–12	15	16
12–13	13	17
13–14	9	12
14–15	13	14
15–16	20	20
16–18	29	18
18–20	23	17
20–22	24	16
22–up	22	15
Total	212	161

The same trades in towns and cities of from 5,000 to 30,000 population:

	1929	1931
Number of firms reporting	32	30
Total number of female employees	780	623
Over 18 years	615	549
Under 18 years	165	74
Total weekly wages	$11,210 69	$8,881 92
Over 18 years	9,512 37	8,069 32
Under 18 years	1,635 32	812 60
Average weekly wages	14 37	14 26
Over 18 years	15 56	14 70
Under 18 years	9 93	10 99
Percentage of young girls under 18	21.2	11.5
Percentage of married women	23.3	18.
Average hours worked per week	48.9	48.7

Weekly rate of wages:	1929	1931
Under $7 00	....	1
7– 8	37	22
8– 9	38	28
9–10	51	44
10–11	77	29
11–12	61	75
12–13	83	79
13–14	53	55
14–15	45	60
15–16	58	40
16–18	100	80
18–20	70	45
20–22	51	29
22–up	56	36
Total	780	623

The same trades in places under 5,000 population:

	1929	1931
Total number of firms reporting	23	22
Total number of female employees	576	635
Over 18 years	466	520
Under 18 years	110	115
Total weekly wages	$7,166 67	$7,761 01
Over 18 years	6,097 96	6,712 37
Under 18 years	1,068 71	1,048 64
Average weekly wages	12 44	12 20
Over 18 years	13 09	12 90
Under 18 years	9 71	9 12
Percentage of young girls under 18	19.1	18.1
Percentage of married women	13.2	15.5
Average hours worked per week	49.8	48.9

Weekly rate of wages:	1929	1931
Under $7 00	5	9
7– 8	27	31
8– 9	40	46
9–10	67	80
10–11	85	93
11–12	62	54
12–13	73	59
13–14	47	71
14–15	35	52
15–16	34	38
16–18	37	36
18–20	28	29
20–22	17	15
22–up	19	22
Total	576	635

ORDER NO. 30

These factories make electrical goods:

In the City of Toronto:

	1929	1931
Number of firms reporting	23	28
Total number of female employees	888	914
Over 18 years	747	864
Under 18 years	141	50
Total weekly wages	$13,191 48	$12,797 00
Over 18 years	11,375 41	12,194 06
Under 18 years	1,816 07	602 94
Average weekly wages	14 86	14 00
Over 18 years	15 23	14 11
Under 18 years	12 88	12 06
Percentage of young girls under 18	15.8	5.5
Percentage of married women	7.2	9.5
Average hours worked per week	45.7	46.8

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	....
8– 9	1	1
9–10	5	16
10–11	25	18
11–12	90	59
12–13	148	131
13–14	86	228
14–15	234	206
15–16	77	114
16–18	94	92
18–20	94	27
20–22	16	10
22–up	18	12
Total	888	914

In places of over 30,000 population, excepting Toronto:

	1929	1931
Number of firms reporting	7	9
Total number of female employees	647	539
Over 18 years	594	501
Under 18 years	53	38
Total weekly wages	$10,155 09	$8,988 99
Over 18 years	9,593 28	8,538 98
Under 18 years	561 81	450 01
Average weekly wages	15 69	16 68
Over 18 years	16 15	17 04
Under 18 years	10 60	11 84
Percentage of young girls under 18	8.2	7.
Percentage of married women	4.4	2.7
Average hours worked per week	48.3	49.3

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	....
8– 9	1	....
9–10	....	1
10–11	76	3
11–12	33	12
12–13	52	41
13–14	37	47
14–15	47	76
15–16	73	65
16–18	133	120
18–20	105	104
20–22	48	44
.2–up	42	26
Total	647	539

In cities and towns of from 5,000 to 30,000 population:

	1929	1931
Number of firms reporting	11	9
Total number of female employees	532	336
Over 18 years	432	317
Under 18 years	100	19
Total weekly wages	$7,529 13	$4,449 81
Over 18 years	6,392 98	4,259 34
Under 18 years	1,136 15	190 47
Average weekly wages	14 14	13 24
Over 18 years	14 34	13 44
Under 18 years	11 36	10 03
Percentage of young girls under 18	18.8	5.4
Percentage of married women	9.7	5.
Average hours worked per week	49.	46.7

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	....
8 –9	2	1
9–10	60	10
10–11	45	17
11–12	92	76
12–13	82	60
13–14	63	41
14–15	51	61
15–16	56	16
16–18	47	28
18–20	17	18
20–22	11	4
22–up	6	4
Total	532	336

In places under 5,000 population:

	1929	1931
Number of firms reporting	3	5
Total number of female employees	21	91
Over 18 years	15	89
Under 18 years	6	2
Total weekly wages	$246 98	$1,079 96
Over 18 years	179 93	1,058 28
Under 18 years	67 05	21 68
Average weekly wages	11 76	11 87
Over 18 years	12 85	11 89
Under 18 years	11 18	10 84
Percentage of young girls under 18	28.5	2.2
Percentage of married women	33.3	22.
Average hours worked per week	46.5	47.2

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	....
8– 9	2	3
9–10	3	2
10–11	1	28
11–12	3	5
12–13	8	42
13–14	1	3
14–15	....	3
15–16	3	4
16–18	....	....
18–20	....	....
20–22	....	....
22–up	....	1
Total	21	91

ORDER NO. 34

The food trades, including the making of confectionery, biscuit, chocolate, jam, gum, grocery specialties, crushed fruit, syrup, pickles, together with bakeries, packing houses and all allied industries (excepting seasonal canneries).

In the City of Toronto:

	1929	1931
Number of firms reporting	108	114
Total number of female employees	3,312	2,842
Over 18 years	2,719	2,570
Under 18 years	593	272
Total weekly wages	$44,692 92	$39,078 47
Over 18 years	38,378 21	36,359 47
Under 18 years	6,314 71	2,719 00
Average weekly wages	13 46	13 75
Over 18 years	14 12	14 15
Under 18 years	10 65	10 00
Percentage of young girls under 18	17.9	9.5
Percentage of married women	16.5	14.2
Average hours worked per week	45.3	46.3

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	37
8– 9	112	40
9–10	98	63
10–11	283	109
11–12	279	215
12–13	910	898
13–14	477	418
14–15	258	366
15–16	326	210
16–18	274	255
18–20	152	125
20–22	73	51
22–up	70	55
Total	3,312	2,842

The same trades in cities of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	65	62
Total number of female employees	935	841
Over 18 years	811	772
Under 18 years	124	69
Total weekly wages	$12,930 11	$11,399 79
Over 18 years	11,632 01	10,653 31
Under 18 years	1,307 10	746 48
Average weekly wages	13 82	13 35
Over 18 years	14 37	13 80
Under 18 years	10 54	10 82
Percentage of young girls under 18	13.3	8.2
Percentage of married women	20.3	22.2
Average hours worked per week	47.3	47.6

Weekly rate of wages:	1929	1931
Under $7 00	1	....
7- 8	2	....
8- 9	33	11
9-10	44	13
10-11	56	50
11-12	170	127
12-13	200	206
13-14	95	159
14-15	87	104
15-16	94	62
16-18	56	48
18-20	41	27
20-22	30	17
22-up	26	17
Total	935	841

The same trades in places of 5,000 to 30,000 population:

	1929	1931
Total number of firms reporting	73	56
Total number of female employees	711	638
Over 18 years	571	554
Under 18 years	140	84
Total weekly wages	$9,005 82	$7,978 77
Over 18 years	7,581 51	7,109 49
Under 18 years	1,424 31	869 28
Average weekly wages	12 67	12 50
Over 18 years	13 28	12 85
Under 18 years	10 17	10 35
Percentage of young girls under 18	19.7	13.1
Percentage of married women	11.5	8.5
Average hours worked per week	49.1	47.5

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7- 8	14	11
8- 9	32	33
9-10	35	42
10-11	133	62
11-12	103	118
12-13	137	135
13-14	68	84
14-15	35	44
15-16	47	26
16-18	29	33
18-20	22	17
20-22	26	15
22-up	30	16
Total	711	638

The same trade in places under 5,000 population:

	1929	1931
Number of firms reporting	48	35
Total number of female employees	330	340
Over 18 years	299	299
Under 18 years	31	41
Total weekly wages	$4,140 69	$4,320 63
Over 18 years	3,806 12	3,898 63
Under 18 years	334 57	422 00
Average weekly wages	12 55	12 71
Over 18 years	13 40	13 04
Under 18 years	10 79	10 30
Percentage of young girls under 18	9.4	12.
Percentage of married women	30.	25.3
Average hours worked per week	52.4	53.3
Weekly rate of wages:		
Under $7 00	2	1
7– 8	5	2
8– 9	2	7
9–10	29	14
10–11	52	61
11–12	40	57
12–13	42	125
13–14	17	19
14–15	26	6
15–16	74	10
16–18	22	15
18–20	11	8
20–22	2	8
22–up	6	7
Total	330	340

ORDER NO. 35

Miscellaneous order: governing all factory trades not dealt with in other orders (except seasonal canneries).

In the City of Toronto:

	1929	1931
Number of firms reporting	132	143
Total number of female employees	1,654	1,375
Over 18 years	1,447	1,292
Under 18 years	207	83
Total weekly wages	$23,530 23	$19,803 19
Over 18 years	21,342 90	18,903 31
Under 18 years	2,187 33	899 08
Average weekly wages	14 22	14 40
Over 18 years	14 75	14 63
Under 18 years	10 57	10 83
Percentage of young girls under 18	12.5	6.
Percentage of married women	17.4	17.8
Average hours worked per week	45.2	45.08
Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	2	2
8– 9	40	13
9–10	46	21
10–11	121	95
11–12	105	97
12–13	390	340
13–14	206	234
14–15	170	134
15–16	183	159
16–18	161	115
18–20	109	79
20–22	63	34
22–up	58	52
Total	1,654	1,375

In cities of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	63	67
Total number of female employees	1,104	791
Over 18 years	988	755
Under 18 years	116	36
Total weekly wages	$16,260 40	$10,824 16
Over 18 years	14,950 22	10,479 36
Under 18 years	1,310 18	344 80
Average weekly wages	14 72	13 68
Over 18 years	15 13	13 88
Under 18 years	11 29	9 58
Percentage of young girls under 18	10.5	4.5
Percentage of married women	16.1	15.8
Average hours worked per week	48.2	46.3

Weekly rate of wages:	1929	1931
Under $7 00	1	1
7– 8	2	....
8– 9	9	16
9–10	43	102
10–11	58	73
11–12	160	122
12–13	138	129
13–14	146	46
14–15	93	46
15–16	94	54
16–18	114	95
18–20	165	66
20–22	44	18
22–up	37	23
Total	1,104	791

In cities and towns of from 5,000 to 30,000 population:

	1929	1931
Number of firms reporting	89	95
Total number of female employees	1,276	1,150
Over 18 years	1,058	1,045
Under 18 years	218	105
Total weekly wages	$17,197 39	$14,084 32
Over 18 years	14,816 39	12,971 35
Under 18 years	2,381 00	1,112 97
Average weekly wages	13 48	12 25
Over 18 years	14 00	12 41
Under 18 years	10 92	10 60
Percentage of young girls under 18	17.08	9.1
Percentage of married women	19.02	15.7
Average hours worked per week	49.7	45.9

Weekly rate of wages:	1929	1931
Under $7 00	6	16
7– 8	27	13
8– 9	40	34
9–10	79	85
10–11	72	113
11–12	277	344
12–13	155	151
13–14	131	132
14–15	106	75
15–16	108	50
16–18	132	66
18–20	55	24
20–22	22	16
22–up	66	31
Total	1,276	1,150

In places having less than 5,000 population:

	1929	1931
Number of firms reporting	71	78
Total number of female employees	1,248	1,094
Over 18 years	1,072	981
Under 18 years	176	113
Total weekly wages	$15,157 56	$12,919 64
Over 18 years	13,345 59	11,759 16
Under 18 years	1,811 97	1,160 48
Average weekly wages	12 15	11 81
Over 18 years	12 45	11 99
Under 18 years	10 29	10 27
Percentage of young girls under 18	14.1	10.3
Percentage of married women under 50	25.2	20.1
Average hours worked per week	49.7	48.4

Weekly rate of wages:	1929	931
Under $7 00	22	21
7– 8	12	22
8– 9	94	47
9–10	201	137
10–11	191	168
11–12	189	157
12–13	122	115
13–14	64	199
14–15	43	58
15–16	217	72
16–18	45	58
18–20	23	13
20–22	10	15
22–up	15	12
Total	1,248	1,094

ORDER No. 36

Factories making tobacco goods:

In the City of Toronto:

	1929	1931
Number of firms reporting	4	5
Total number of female employees	214	260
Over 18 years	209	243
Under 18 years	5	17
Total weekly wages	$3,295 09	$3,839 47
Over 18 years	3,249 09	3,648 05
Under 18 years	46 00	191 42
Average weekly wages	15 40	14 77
Over 18 years	15 55	15 01
Under 18 years	9 20	11 26
Percentage of young girls under 18	2.3	6.5
Percentage of married women	36.9	35.
Average hours worked per week	44.	41.5

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	....
8– 9	3	....
9–10	....	78
10–11	54	2
11–12	3	1
12–13	26	8
13–14	8	12
14–15	7	20
15–16	3	6
16–18	3	107
18–20	90	13
20–22	4	7
22–up	13	6
Total	214	260

In cities of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	7	6
Total number of female employees	292	310
Over 18 years	268	285
Under 18 years	24	25
Total weekly wages	$3,436 90	$3,607 59
Over 18 years	3,197 90	3,359 59
Under 18 years	239 00	248 00
Average weekly wages	11 77	11 64
Over 18 years	11 93	11 79
Under 18 years	9 96	9 92
Percentage of young girls under 18	8.2	8.06
Percentage of married women	44.1	35.08
Average hours worked per week	43.7	43.3
Weekly rate of wages:	1929	1931
Under $7 00	....	3
7– 8	2	....
8– 9	1	....
9–10	46	11
10–11	49	69
11–12	104	141
12–13	29	37
13–14	20	19
14–15	9	14
15–16	9	14
16–18	20	....
18–20	2	1
20–22	....	....
22–up	1	1
Total	292	310

In cities and towns of 5,000 to 30,000 population:

	1929	1931
Number of firms reporting	1	2
Total number of female employees	8	126
Over 18 years	7	112
Under 18 years	1	14
Total weekly wages	$104 38	$1,397 43
Over 18 years	96 38	1,289 43
Under 18 years	8 00	108 00
Average weekly wages	13 05	11 09
Over 18 years	13 77	11 51
Under 18 years	8 00	7 71
Percentage of young girls under 18	12.5	11.1
Percentage of married women	25.	69.8
Average hours worked per week	44.	46.5
Weekly rate of wages:	1929	1931
Under $7 00	....	6
7– 8	....	9
8– 9	1	14
9–10	....	18
10–11	3	13
11–12	2	43
12–13	....	7
13–14	....	7
14–15	....	3
15–16	....	6
16–18	....	....
18–20	1	....
20–22	....	....
22–up	1	....
Total	8	126

In places under 5,000 population:

	1929	1931
Number of firms reporting	2	3
Total number of female employees	150	266
Over 18 years	138	245
Under 18 years	12	21
Total weekly wages	$1,725 23	$2,660 64
Over 18 years	1,595 21	2,489 68
Under 18 years	130 02	170 96
Average weekly wages	11 50	10 00
Over 18 years	11 56	10 16
Under 18 years	10.84	8 14
Percentage of young girls under 18	8.	7.8
Percentage of married women	61.3	50.
Average hours worked per week	52.5	49.3

Weekly rate of wages:	1929	1931
Under $7 00	2	8
7– 8	....	40
8– 9	....	17
9–10	2	41
10–11	52	114
11–12	57	27
12–13	1	9
13–14	32	4
14–15	1	2
15–16	1	3
16–18	2	1
18–20	....	....
20–22	....	....
22–up	....	....
Total	150	266

ORDER NO. 37

Factories making rubber goods:

In the City of Toronto:

	1929	1931
Number of firms reporting	5	5
Total number of female employees	572	410
Over 18 years	525	402
Under 18 years	47	8
Total weekly wages	$9,745 45	$6,481 34
Over 18 years	9,071 81	6,391 84
Under 18 years	673 64	89 50
Average weekly wages	17 04	15 81
Over 18 years	17 28	15 90
Under 18 years	14 33	11 19
Percentage of young girls under 18 years	8.2	1.9
Percentage of married women	30.9	35.1
Average hours worked per week	45.7	44.9

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	1	....
8– 9	....	....
9–10	2	1
10–11	2	2
11–12	37	11
12–13	21	27
13–14	47	56
14–15	29	53
15–16	57	39
16–18	148	178
18–20	153	27
20–22	40	6
22–up	35	10
Total	572	411

In cities of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	1	1
Total number of female employees	51	64
Over 18 years	51	64
Under 18 years	....	....
Total weekly wages	$912 63	$864 45
Over 18 years	912.63	864 45
Under 18 years	....	....
Average weekly wages	17 89	13 51
Over 18 years	17 89	13 51
Under 18 years	....	....
Percentage of young girls under 18	....	....
Percentage of married women	21.5	14.
Average hours worked per week	50.	40.

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	....
8– 9	....	1
9–10	....	1
10–11	....	1
11–12	....	10
12–13	....	22
13–14	2	9
14–15	1	4
15–16	4	6
16–18	26	7
18–20	9	3
20–22	7	....
22–up	2	....
Total	51	64

In cities and towns of from 5,000 to 30,000 population:

	1929	1931
Number of firms reporting	11	11
Total number of female employees	919	1,098
Over 18 years	750	978
Under 18 years	169	120
Total weekly wages	$12,863 09	$12,458 25
Over 18 years	11,062 46	11,249 07
Under 18 years	1,800 63	1,209 18
Average weekly wages	14 00	11 35
Over 18 years	14 75	11 50
Under 18 years	10 65	10 07
Percentage of young girls under 18	18.3	10.9
Percentage of married women	30.7	32.4
Average hours worked per week	51.8	44.2

Weekly rate of wages:	1929	1931
Under $7 00	2	14
7– 8	26	53
8– 9	88	76
9–10	49	158
10–11	86	150
11–12	119	287
12–13	110	158
13–14	97	92
14–15	90	38
15–16	70	28
16–18	88	23
18–20	53	10
20–22	25	7
22–up	16	4
Total	919	1,098

In places having less than 5,000 population:

	1929	1931
Number of firms reporting	5	3
Total number of female employees	326	76
Over 18 years	294	65
Under 18 years	32	1
Total weekly wages	$4,967 87	$979 38
Over 18 years	4,572 62	969 24
Under 18 years	395 25	10 14
Average weekly wages	15 24	12 89
Over 18 years	15 55	12 92
Under 18 years	12 35	10 14
Percentage of young girls under 18	9.8	1.3
Percentage of married women	13.1	25.
Average hours worked per week	51.9	47.

Weekly rate of wages:	1929	1931
Under $7 00	2	....
7– 8	2	....
8– 9	7	3
9–10	16	2
10–11	16	5
11–12	17	11
12–13	25	13
13–14	18	14
14–15	35	16
15–16	35	8
16–18	92	1
18–20	35	2
20–22	22	1
22–up	4	....
Total	326	76

ORDER NO. 38

Factories making jewellery:

In the City of Toronto:

	1929	1931
Number of firms reporting	22	18
Total number of female employees	236	166
Over 18 years	208	156
Under 18 years	28	10
Total weekly wages	$3,436 73	$2,386 01
Over 18 years	3,148 78	2,263 58
Under 18 years	287 95	122 43
Average weekly wages	14 56	14 40
Over 18 years	14 14	14 54
Under 18 years	10 28	12 24
Percentage of young girls under 18	11.9	6.
Percentage of married women	12.7	13.3
Average hours worked per week	47.5	43.2

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	1	1
8– 9	11	6
9–10	8	4
10–11	15	2
11–12	13	4
12–13	43	34
13–14	22	23
14–15	23	21
15–16	21	24
16–18	31	25
18–20	16	9
20–22	13	5
22–up	19	8
Total	236	166

In places of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	7	6
Total number of female employees	29	14
Over 18 years	24	12
Under 18 years	5	2
Total weekly wages	$386 00	$191 00
Over 18 years	344 00	177 00
Under 18 years	42 00	14 00
Average weekly wages	13 31	13 64
Over 18 years	14 33	14 75
Under 18 years	8 40	7 00
Percentage of young girls under 18	17.2	14.
Percentage of married women	3.4	7.1
Average hours worked per week	44.	46.

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	4	2
8– 9	1	....
9–10	....	....
10–11	3	....
11–12	4	3
12–13	3	2
13–14	....	....
14–15	2	....
15–16	1	1
16–18	6	3
18–20	3	2
20–22	2	1
22–up	....	....
Total	29	14

In places of from 5,000 to 30,000 population:

	1929	1931
Number of firms reporting	7	8
Total number of female employees	147	115
Over 18 years	124	109
Under 18 years	23	6
Total weekly wages	$2,038 38	$1,520 92
Over 18 years	1,827 51	1,466 30
Under 18 years	210 87	54 62
Average weekly wages	13 89	13 22
Over 18 years	14 74	13 45
Under 18 years	9 17	9 10
Percentage of young girls under 18	15.6	5.
Percentage of married women	13.5	11.3
Average hours worked per week	47.4	46.5

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	2	2
8– 9	15	3
9–10	5	5
10–11	19	15
11–12	19	25
12–13	13	12
13–14	10	17
14–15	16	8
15–16	13	11
16–18	21	7
18–20	3	1
20–22	1	5
22–up	10	4
Total	147	115

ORDER No. 39

The paper trades, which include printing, bookbinding, paper box making, paper bag making, manufacturing stationery and other trades making paper or paper products.

In the City of Toronto:

	1929	1931
Number of firms reporting	197	191
Total number of female employees	2,846	2,505
Over 18 years	2,502	2,355
Under 18 years	344	150
Total weekly wages	$44,456 39	$38,807 28
Over 18 years	40,595 50	37,164 56
Under 18 years	3,860 89	1,642 72
Average weekly wages	15 61	15 49
Over 18 years	16 22	15 78
Under 18 years	11 23	11 10
Percentage of young girls under 18	12.	6.8
Percentage of married women	14.2	13.
Average hours worked per week	46.2	45.6
Weekly rate of wages:	1929	1931
Under $7 00	....	1
7– 8	8	3
8– 9	79	20
9–10	132	45
10–11	143	90
11–12	116	91
12–13	483	486
13–14	226	260
14–15	260	253
15–16	249	255
16–18	614	508
18–20	216	209
20–22	144	111
22–up	176	173
Total	2,846	2,505

In cities of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	69	68
Total number of female employees	1,349	1,197
Over 18 years	1,211	1,138
Under 18 years	138	59
Total weekly wages	$18,389 69	$16,718 87
Over 18 years	17,061 76	16,129 42
Under 18 years	1,327 93	589 45
Average weekly wages	13 63	13 86
Over 18 years	14 09	14 16
Under 18 years	9 62	9 99
Percentage of young girls under 18	10.2	4.9
Percentage of married women	7.4	6.
Average hours worked per week	46.2	47.4
Weekly rate of wages:	1929	1931
Under $7 00	....	1
7– 8	....	....
8– 9	32	22
9–10	103	26
10–11	77	64
11–12	311	263
12–13	196	213
13–14	147	135
14–15	137	155
15–16	98	104
16–18	102	102
18–20	53	52
20–22	28	19
22–up	65	41
Total	1,349	1,197

In towns and cities of from 5,000 to 30,000 population:

	1929	1931
Number of firms reporting	72	71
Total number of female employees	820	680
Over 18 years	695	650
Under 18 years	125	30
Total weekly wages	$10,937 06	$8,813 20
Over 18 years	9,702 20	8,558 33
Under 18 years	1,234 86	254 87
Average weekly wages	13 34	12 96
Over 18 years	13 96	13 17
Under 18 years	9 89	8 49
Percentage of young girls under 18	15.2	4.1
Percentage of married women	10.5	8.2
Average hours worked per week	47.5	47.5

Weekly rate of wages:	1929	1931
Under $7 00	....	1
7– 8	13	6
8– 9	28	7
9–10	48	15
10–11	93	56
11–12	148	214
12–13	135	97
13–14	54	52
14–15	55	42
15–16	63	38
16–18	65	54
18–20	31	23
20–22	31	22
22–up	56	53
Total	820	680

In places of less than 5,000 population:

	1929	1931
Number of firms reporting	78	73
Total number of female employees	398	323
Over 18 years	348	296
Under 18 years	50	27
Total weekly wages	$5,252 38	$4,487 79
Over 18 years	4,827 50	4,180 18
Under 18 years	624 50	307 61
Average weekly wages	13 20	13 89
Over 18 years	13 87	14 13
Under 18 years	12 49	11 39
Percentage of young girls under 18	12.8	8.3
Percentage of married women	7.7	13.
Average hours worked per week	47.5	48.6

Weekly rate of wages:	1929	1931
Under $7 00	4	2
7– 8	4	1
8– 9	19	14
9–10	8	12
10–11	57	25
11–12	48	21
12–13	67	54
13–14	44	25
14–15	22	42
15–16	60	49
16–18	31	43
18–20	10	18
20–22	15	9
22–up	9	8
Total	398	323

ORDER NO. 27

Hotels, restaurants and refreshment rooms:
In the City of Toronto:

	1929	1931
Number of firms reporting	166	246
Total number of female employees	2,821	3,039
Over 18 years	2,780	2,985
Under 18 years	41	54
Total weekly wages	$46,166 46	$46,457 98
Over 18 years	45,520 80	45,699 71
Under 18 years	646 66	758 27
Average weekly wages	16 36	15 29
Over 18 years	16 37	15 31
Under 18 years	15 75	14 04
Percentage of young girls under 18	1.4	1.8
Percentage of married women	34.4	35.
Average hours worked per week	50.6	50.2
Weekly rate of wages:	1929	1931
Under $7 00	....	....
7- 8	....	....
8- 9	....	....
9-10	....	....
10-11	....	....
11-12	....	....
12-13	85	210
13-14	459	937
14-15	427	490
15-16	456	303
16-18	667	569
18-20	472	290
20-22	161	137
22-up	139	103
Total	2,821	3,039

ORDER NO. 46

Hotels, restaurants and refreshment rooms:
In cities and towns of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	132	145
Total number of female employees	867	852
Over 18 years	848	826
Under 18 years	19	26
Total weekly wages	$12,639 30	$12,510 41
Over 18 years	12,391 55	12,166 83
Under 18 years	247 75	343 58
Average weekly wages	14 58	14 68
Over 18 years	14 61	14 73
Under 18 years	13 04	13 21
Percentage of young girls under 18	2.19	3.05
Percentage of married women	26.7	35.4
Average hours worked per week	51.9	50.8
Weekly rate of wages:	1929	1931
Under $7 00	....	....
7-8	....	....
8-9	....	....
9-10	....	....
10-11	....	....
11-12	....	....
12-13	209	312
13-14	203	134
14-15	144	182
15-16	116	59
16-18	108	102
18-20	57	40
20-22	15	6
22-up	15	17
Total	867	852

In cities and towns of from 10,000 to 30,000 population:

	1929	1931
Number of firms reporting	176	172
Total number of female employees	1,071	939
Over 18 years	1,020	901
Under 18 years	51	38
Total weekly wages	$14,922 13	$12,796 24
Over 18 years	14,250 23	12,340 26
Under 18 years	671 90	455 98
Average weekly wages	13 93	13 63
Over 18 years	13 97	13 70
Under 18 years	13 17	12 00
Percentage of young girls under 18	4.7	4.
Percentage of married women	28.	32.4
Average hours worked per week	52.4	50.

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	....
8– 9	....	....
9–10	....	....
10–11	....	....
11–12	163	267
12–13	249	245
13–14	205	136
14–15	191	108
15–16	73	52
16–18	104	55
18–20	39	37
20–22	19	16
22–up	28	23
Total	1,071	939

In cities and towns of from 4,000 to 10,000 population:

	1929	1931
Number of firms reporting	117	142
Total number of female employees	484	506
Over 18 years	455	490
Under 18 years	29	16
Total weekly wages	$6,566 91	$6,426 95
Over 18 years	6,208 87	6,239 02
Under 18 years	358 04	187 93
Average weekly wages	13 57	12 70
Over 18 years	13 65	12 73
Under 18 years	12 35	11 75
Percentage of young girls under 18	5.9	3.1
Percentage of married women	20.2	22.1
Average hours worked per week	53.1	51.4

Weekly rate of wages:	1929	1931
Under $7 00	....	....
7– 8	....	....
8– 9	....	....
9–10	....	....
10–11	29	84
11–12	79	139
12–13	118	96
13–14	131	80
14–15	51	44
15–16	15	16
16–18	25	26
18–20	16	9
20–22	9	4
22–up	11	8
Total	484	506

ORDER NO. 41

Custom Millinery:

In the City Toronto

	1929	1931
Number of firms reporting	59	49
Total number of female employees	513	396
Over 18 years	471	373
Under 18 years	42	23
Total weekly wages	$8,351 10	$6,803 51
Over 18 years	7,984 60	6,580 76
Under 18 years	366 50	222 75
Average weekly wages	16 28	17 18
Over 18 years	16 96	17 64
Under 18 years	8 72	9 68
Percentage of young girls under 18	8.1	6.
Percentage of married women	10.7	12.9
Average hours worked per week	46.3	47.7

Weekly rate of wages:	1929	1931
Under $7 00	19	5
7– 8	9	7
8– 9	13	14
9–10	19	8
10–11	22	10
11–12	3	4
12–13	39	29
13–14	19	22
14–15	34	42
15–16	63	49
16–18	89	64
18–20	53	44
20–22	22	31
22–up	109	67
Total	513	396

ORDER NO. 43

Custom Millinery in places of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	38	39
Total number of female employees	169	110
Over 18 years	166	107
Under 18 years	3	3
Total weekly wages	$2,827 00	$1,802 50
Over 18 years	2,806 00	1,772 00
Under 18 years	21 00	30 50
Average weekly wages	16 72	16 39
Over 18 years	17 37	16 56
Under 18 years	7 00	10 16
Percentage of young girls under 18 years	1.7	2.7
Percentage of married women	18.8	9.3
Average hours worked per week	47.6	48.7

Weekly rate of wages:	1929	1931
Under $7 00	3	11
7– 8	....	....
8– 9	2	....
9–10	....	2
10–11	2	1
11–12	3	1
12–13	36	25
13–14	21	4
14–15	6	5
15–16	22	18
16–18	16	8
18–20	15	14
20–22	14	12
22–up	29	20
Total	169	110

ORDER NO. 45

Custom Millinery in places of from 4,000 to 30,000 population:

	1929	1931
Number of firms reporting	74	55
Total number of female employees	156	113
Over 18 years	145	111
Under 18 years	11	2
Total weekly wages	$2,351 75	$1,767 25
Over 18 years	2,285 75	1,761 25
Under 18 years	66 00	6 00
Average weekly wages	15 07	15 64
Over 18 years	15 76	15 86
Under 18 years	6 00	3 00
Percentage of young girls under 18	7.	1.7
Percentage of married women	7.7	6.1
Average hours worked per week	50.6	48.9
Weekly rate of wages:	1929	1931
Under $7 00	11	6
7– 8	4	1
8– 9	3	2
9–10	5	2
10–11	12	12
11–12	3	2
12–13	19	17
13–14	6	4
14–15	6	8
15–16	26	11
16–18	14	9
18–20	12	10
20–22	14	9
22–up	21	21
Total	156	113

ORDER NO. 42

Hairdressing and Beauty Parlors:
In the City of Toronto:

	1929	1931
Number of firms reporting	65	82
Total number of female employees	287	316
Over 18 years	272	304
Under 18 years	15	12
Total weekly wages	$5,642 02	$5,623 26
Over 18 years	5,449 89	5,509 26
Under 18 years	192 13	114 00
Average weekly wages	19 65	17 80
Over 18 years	20 03	18 12
Under 18 years	12 81	9 50
Percentage of young girls under 18 years	5.2	3.8
Percentage of married women	12.2	16.5
Average hours worked per week	47.5	47.
Weekly rate of wages:	1929	1931
Under $7 00	4	1
7– 8	2	1
8– 9	2	7
9–10	2	5
10–11	7	11
11–12	1	4
12–13	16	32
13–14	6	16
14–15	11	15
15–16	36	31
16–18	28	49
18–20	47	40
20–22	36	30
22–up	89	75
Total	287	316

ORDER No. 44

The same trade in cities of 30,000 population or over, excepting Toronto:

	1929	1931
Number of firms reporting	44	51
Total number of female employees	111	126
Over 18 years	....	122
Under 18 years	....	4
Total weekly wages	$1,896 24	$2,072 78
Over 18 years	....	2,024 78
Under 18 years	....	48 00
Average weekly wages	17 08	16 45
Over 18 years	....	16 60
Under 18 years	....	12 00
Percentage of young girls under 18 years	....	3.2
Percentage of married women	13.5	22.2
Average hours worked per week	46.7	48.8

Weekly rate of wages:	1929	1931
Under $7 00	1	1
7– 8	....	....
8– 9	1	....
9–10	....	....
10–11	4	8
11–12	....	4
12–13	12	27
13–14	1	5
14–15	4	5
15–16	21	14
16–18	14	19
18–20	13	12
20–22	17	15
22–up	23	16
Total	111	126

ADMINISTRATION

The prevailing depression has increased this phase of the Board's work to a certain degree.

As, always, wage sheets were gathered from the factories, laundries, hotels, millinery, hairdressers, etc., and from many stores and offices. A total of 6,219 such reports were received, giving information as to 67,049 female employees. These have been carefully analyzed, and any seeming lack of conformity with the orders taken up with the firms concerned. In all, 460 such interrogations were made, which is 51 more than in 1930. Again, these were all satisfactorily adjusted or explained.

Complaints increased, amounting to 411, which is 61 more than in the preceding year. Mr. J. T. Burke, Chief Inspector, meets with the Board fortnightly for the review of these cases. Most of them present little difficulty but a few have been more obstinate. However, they have all been settled without prosecution in court.

The orders are printed on cards and displayed in the several business establishments, where they may be easily read by the female employees. The Factory Inspectors report regularly as to their being properly posted. Besides complaints from the workers, we have received a number from other sources. Trades-unions, social workers, the clergy, school officials, interested citizens and other employers report alleged violations. Each of these is investigated and any breaches of the law corrected.

Mr. H. G. Fester, a member of the Board, devotes his time to giving personal attention to all matters which cannot be readily handled through correspondence. In the course of the year he has visited a number of places throughout the Province. Other members of the Board have also, to a lesser extent, assisted in this phase of the Board's operations.

Ontario occupies an extensive area, and the staff of the Board is a slender one, yet it has reason to believe that its standards are well observed throughout the entire Province. Complete investigations of certain towns and cities are made from time to time which show that the wage levels are conforming to the regulations. During the past year, in addition, the retail stores of Toronto were gone over thoroughly, and with the same result.

The character and volume of the correspondence appears from the following table:

Dictated letters	4,262
Letters received	1,526
Orders sent out	1,543
Form letters sent out	7,666
Question forms sent out	5,788

COLLECTION OF ARREARS

The Board does not regard the collection of arrears as any indication of the success of its work. Its aim is to support the minimum standards so thoroughly that there shall be no arrears to collect. Until that perfect condition is attained it continues to collect arrears, both as a wholesome discipline for offending firms, and in order to recoup its clients for earnings which they have not received. In recent years the total sums thus disbursed have been less than formerly, which may be taken as evidence that the orders are being more completely obeyed.

The figures for 1931 are as follows:

Firms concerned	61
Employees concerned	80
Amount collected	$1,623 63
Largest amount to any worker	110 00
Smallest amount to any worker	2 00
Average	20 29

PERMITS

The Board possesses authority to allow a lower wage to handicapped workers, and to suspend or vary its orders in cases of emergency. It will be seen that this authority has been used sparingly. Most of the permits are of short duration. A valuable element of flexibility is thus added to the administration, leaving the standards unharmed.

Number of firms to whom issued	168
Number of permits expired	101
Number now in force	161
(*a*) For handicapped workers	120
(*b*) Re proportion of experienced workers	16
(*c*) Special apprenticeship	8
(*d*) Others	17

In Conclusion

No new orders have been issued during the year.

The Board would acknowledge the support it has received from organized labour, employers generally, and the public. In spite of the difficulties of doing business in a depression the schedules have been conformed to. It has been a hard period for working women because of the prevailing unemployment, and thus protection given by the orders of the Board has been the more needed.

We continue to enjoy friendly relations with similar Boards in the other Provinces of Canada.

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